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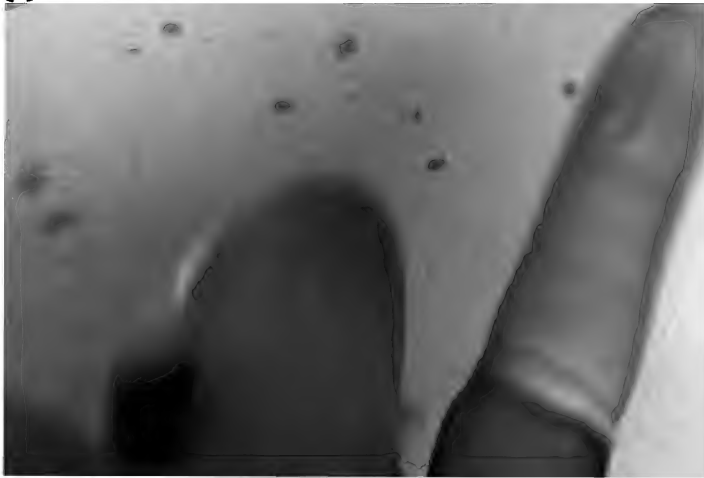
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OF THE BAIL-LANE WESLEYAN SUNDAY SCHOOL
ASHTON-UNDER-LYNE.
AS A TOKEN OF ESTEEM AND REGARD.





HÆCKEL'S MONISM FALSE



HAECKEL'S MONISM FALSE

AN EXAMINATION OF

'The Riddle of the Universe'; 'The Wonders of Life';

'The Confession of Faith of a Man of Science';

By PROFESSOR HAECKEL:

TOGETHER WITH

'Haeckel's Critics Answered,' by Mr. JOSEPH McCABE

BY

FRANK BALLARD

M.A., B.D., B.Sc., F.R.M.S., &c.

AUTHOR OF

'THE MIRACLES OF UNBELIEF,' 'CLARION FALLACIES,

'WHICH BIBLE TO READ,' 'THE MISSION OF CHRISTIANITY,'

'REASONABLE ORTHODOXY,' &c.

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WITH AFFECTIONATE REGARD
TO ALL THOSE
TO WHOM, THESE MANY YEARS,
I HAVE BEEN PERMITTED TO PREACH
CHRIST'S
DOCTRINE CONCERNING
'GOD, FREEDOM, AND IMMORTALITY'

‘WHATSOEVER THINGS ARE TRUE,’
Phil. iv. 8.

PREFACE

THE following pages are confessedly negative. They are so, however, not from choice, but of necessity. They do not constitute an 'attack upon Haeckel,' as may be easily and superficially asserted, but a defence of Christian foundations against already published attacks. These latter, on the part of Professor Haeckel and his admirers, have certainly during recent years lacked nothing in directness, lucidity, and thoroughness. Their object, as stated with refreshing frankness by Mr. McCabe, is 'to sweep away the whole tottering structure of conventional religion and worship.' Such an avowal does credit to its author's honesty; but no man knows better than he that it is no novelty. Indeed, the knell of Christianity has been so often rung that one can scarcely be surprised at the absence of alarm on the part of believers as they catch once more its familiar tones. They may even be permitted to sympathize with militant disbelievers in their disappointments; for however eagerly these may echo the well-known estimate of Tacitus, it is

abundantly manifest that they are now far less likely than he was to witness the much-desired nemesis of his '*exitiabilis superstitio*.'

Still, the Christian Church cannot honestly profess to have come off scathless in the conflict with disbelief. Many positions formerly accounted strong have been taken by the enemy, and grievous wounds have been inflicted upon the defenders of the Christian citadel. The leaders of the modern anti-Christian crusade are welcome to whatever satisfaction this may afford them. Perhaps no propaganda of unbelief in the past has had so great an effect upon so many minds as the issue of these latest works of Professor Haeckel in their cheaper form, popularized and trumpeted as they have also been by means of modern journalism. The reality and extent of this effect can only be questioned by those who take no pains to acquaint themselves with facts. But it is certainly no wisdom on the part of those who 'wage the good fight of faith' to copy the oft-exemplified British folly of underrating the enemy. The believer who shakes in his shoes immediately an opposing word is uttered is but a spiritual invalid. On the other hand, the 'sons of thunder' who would consume incontinently all such as venture to differ from them have no more Christian mission now than when Jesus Himself rebuked them of old. The disciple who has genuinely

learned of His Master will view as calmly as seriously every desperate effort to subvert the foundations of his faith. He knows that it is impossible; but he is also well aware that his own patient watchfulness and earnest effort are necessary elements in the impossibility.

Modern Christianity owes not a little to the ardent advocates of unbelief for correction of mistakes, stimulus to thought, and object-lessons in personal zeal. I hope that the absence in the following pages of anything like personal discourtesy may be regarded as sufficient acknowledgement of such a debt. If the language of condemnation seems sometimes strong, I would plead that it is always impersonal—for the mere recurrence of a name does not involve ‘personalities’—and occurs only when necessitated, in the interests of truth, by the violence or virulence of ‘monistic’ allegations.

In regard to the frequent and well-meaning assertion of believers, that the best way to dispose of error is to ‘affirm positive truth,’ I can only say that such an attitude not seldom simply begs the question which requires to be proved. To do that must be wrong, whatever else is right. Granted that the truth of any thesis is demonstrated, and it cannot be too positively affirmed; but to claim a monopoly of truth for oneself, and refuse to pay any heed to the objections or difficulties of others,

Far indeed as every true Christian may be from panic, it is but the confidence of ignorance which is blind to the seriousness of the modern situation. The imagination that this country—to say nothing of the Continent—can be flooded with half a million of such publications as are here scrutinized, without producing any anti-Christian effect that need be noticed, is but an imitation of the policy of the pursued ostrich, altogether unworthy of those who are bidden on the highest authority to be 'wise as serpents' no less than 'innocent as doves.' That real and lasting good may be brought to pass by 'missions' and 'revivals' is not here disputed. But it is simply childish to suggest that by such means alone all the vexed problems of our day, scientific, philosophical, critical, social, will be for thoughtful people—and especially for the better-educated young men and women in our midst—either solved on Christian principles or robbed of their anti-Christian tendencies. It is surely beyond dispute that in all the departments of modern life intellectual questions are multiplying, and practical problems are thickening. In such a case, all who are attached to the Churches, whatever their degree of culture, are warranted in looking to their avowed teachers for guidance in regard to the quantity and quality of that adaptation to environment which becomes as manifestly necessary for theology as for any

other branch of human study. To ignore such a patent need would be but an ecclesiastical renewal of the policy of Rehoboam, alike treasonable to truth and ruinous to religion.

The positive grounds of fundamental Christian beliefs, in modern light, I hope to set forth in other volumes. Here the task attempted is but to point out plainly and truthfully the many and great errors which characterize the haughty dicta and confident prophecies of Haeckel's monism. Well knowing the thanklessness of the undertaking, no one regrets its necessity more than the writer. Meanwhile, for all concerned in the 'search for truth,' there can be no better philosophical method than that embodied in the apostolic maxim: 'In malice be ye babes, but in mind be men.'

I am indebted to two friends, Revs. E. J. W. Harvey, B.Sc., and R. Christie, for their kindness in reading proof sheets—and to my wife for the Index.

F. B.

NEWCASTLE, *October*, 1905.

'You see, Hylas, the water of yonder fountain, how it is forced upwards, in a round column, to a certain height; at which it breaks, and falls back into the basin from which it rose; its ascent as well as descent proceeding from the same uniform law or principle of gravitation. Just so, the same principles which at first view lead to scepticism, pursued to a certain point, bring men back to common sense.'

BISHOP BERKELEY. See *Selections from the Literature of Theism* (Caldecott & Mackintosh), p. 178.

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' Man as rational, and, in virtue of self-conscious reason, the free shaper of his own destiny, furnishes us, I contend, with our only indefeasible standard of value, and our clearest light as to the nature of the divine. He does what science, occupied only with the laws of events, and speculative metaphysics, when it surrenders itself to the exclusive guidance of the intellect, alike find unintelligible, and are forced to pronounce impossible—he *acts*.'

DR. ANDREW SETH, *Personal Idealism*, p. 344.

INTRODUCTION

'I want no philosophy, no platform, no pulpit, no dying pillow, that does not rest on rendered reasons.'

JOSSEPH COOK, *Boston Lectures*, 'Biology,' p. 68.

'The cosmological argument concludes from the existence of the world as temporal and contingent, conditioned and phenomenal, to the existence of God as its one eternal, unconditioned, self-existent cause. It is an argument which has been in no respect discredited by recent research and discussion, which is in substance accepted not only by theists, but by pantheists, and which forms the basis even of the philosophy of Herbert Spencer. The principle on which it proceeds—the principle of causality—has only come to be more clearly seen to be ultimate, universal, and necessary. The hypothesis of an infinite series of causes and effects has not had its burden of irrationality in the least diminished.'

DR. E. FLINT, *Agnosticism*, p. 590.

'It is not one line of evidence only which establishes the theistic position, but the concurrent force of many, starting from different and independent standpoints. And the voice of reason is confirmed by the soul's direct experiences in religion. At the very least these considerations show—even if the force of demonstration is denied to them—that the Christian view of God is not unreasonable; that it is in accordance with the highest suggestions of reason applied to the facts of existence; that there is no bar in rational thought or in science to its full acceptance. And this is all that at present we need ask.'

ORR'S *Christian View of God and the World*, p. 111.

INTRODUCTION

IN the year 1892 there appeared in Berlin a small brochure entitled *The Confession of Faith of a Man of Science*. It was only apparently anonymous, being the reproduction of an address by Professor Ernst Haeckel, delivered shortly before, at Altenburg, in reply to one by Professor Schlesinger on *Scientific Articles of Faith*. 'The purpose of this candid confession of monistic faith,' on the part of Professor Haeckel, was twofold: (1) to exhibit nature as a unity in the light of modern knowledge; (2) to show that 'in monism the ethical demands of the soul are satisfied, as well as the logical necessities of the understanding.' The issue was characterized by all the scientific acumen and ruthless outspokenness which have so long distinguished its author. In such small compass, however, it was naturally impossible for him to give full expression to his convictions, and the probabilities were manifest that the issue would not reach far beyond the narrow circle of scientific experts. Hence the writer, not unnaturally, proceeded to expand and popularize his theme, with the result that in the autumn of 1899 there appeared a bulky volume entitled *Die Welträthsel*,

which met with immediate success, 10,000 copies being sold in a few months. Forthwith a popular edition was produced, 100,000 copies of which were disposed of within a year. The sale has since been maintained to a considerable degree, and the influence of the work has been manifested in the large number of reviews and pamphlets thereby called forth—more than a hundred reviews and a dozen large pamphlets, according to the author's own statement, having been published in opposition to its teachings. This has been followed by its translation into English, French, Italian, and Spanish, in which tongues also the sale has been large. Its publication in English produced no particular impression, until it was thrust into prominence by an extremely laudatory and drastically anti-Christian notice in *The Clarion* weekly journal, and was issued by the Rationalist Press Association at the popular price of sixpence. This brought about the sale of some 100,000 copies, and gave rise to considerable discussion. It became the occasion of a prolonged series of articles in the journal above mentioned, which, in their combination of slashing invective and inimitable plausibility, constituted the most effective assault upon all things Christian that had appeared for a long time.

The translator of Professor Haeckel's works into our own language, Mr. Joseph McCabe, had only a short time previously passed, according to his own interesting account, *From Rome to Rationalism*, having formerly been Romish priest and professor, as 'the Very Rev.

Father Antony, O.S.F., at St. Antony's, Forest Gate. Being himself a man of wide reading and philosophical acumen, gifted, moreover, with an unusual command of language and a fervid temperament, the German work lost nothing in his English reproduction of it. Indeed, the very title of the book as issued in this country displays the keenness of his personal advocacy, seeing that it is neither justified by the original nor by the facts involved. *Die Welträthsel*, as every schoolboy knows, does not signify in English 'The Riddle of the Universe.' With a view to popular impression, it is a very shrewd mistranslation. It assumes that Professor Haeckel is entirely justified in his assertion that 'only one comprehensive riddle of the universe now remains—the problem of substance.' This, however, is not only a bald and bold affirmation without scientific warrant, but it is flatly contradicted by some of the most eminent expounders of modern science. Of these, by way of specimen, may be mentioned Professor Du Bois Reymond (whose well-known *Ignorabimus* address, on the 'boundaries of natural knowledge,' is mentioned as influential by Professor Haeckel himself) and, in this country, Professor Sir Oliver Lodge, not to speak of a host of others whose authoritative words might easily be quoted. But they are not necessary, seeing that Professor Haeckel himself not merely retains the plural, *Die Welträthsel*, for his own latest popular editions, but in regard even to physical problems—which form after all but a fractional part of the

same time he reaffirms his former attitude with all possible emphasis.¹

Following closely upon this comes now another volume, bulkier even than its predecessor, and expressly intended by the author to be 'not only a necessary supplement to *The Riddle*, but at the same time my last philosophic work.' It is to be regarded as 'a final reply to opponents,' and 'a thorough exposition of my own monistic and causative system.' It is divided into four parts: '(1) Methodological section, knowledge of life; (2) Morphological section, nature of life; (3) Physiological section, functions of life; (4) Genealogical section, history of life.' These lead up to the final avowal that 'Every year increases my conviction that the dualism of Kant and the prevalent metaphysical school must give way to the monism of Goethe and the rising pantheistic tendency.' In the work as a whole, there cannot be said to be anything new; but it is a detailed elaboration, with a few noticeable additions, of the previous thesis. Thus it unhesitatingly affirms and seeks to prove² that the human mind is nothing more than 'a function of the phronema'; it adopts the latest chemical suggestions as to the origin of life; reiterates the contemptuous distinction between Kant I and Kant II;

¹ Mr. McCabe is perfectly justified in affixing to his brochure a definite protest against the attempts made, by some Christian speakers and writers, to spread groundless reports concerning Haeckel's personal vacillation as to the validity of his own theories. Nothing is gained for the cause of Christian truth by such careless and unwarranted advocacy.

² *Wonders of Life*, p. 343, unabridged edition.

and concludes with two chapters in which the author's monism is further extolled at the expense of dualism.

Although *Wonders of Life* is said to be the author's last philosophic work, it does not represent the final effort to popularize his views, seeing that special efforts are being made to advertise a forthcoming translation of the new edition of Professor Haeckel's *Anthropogenie*. This is said to be 'a complete, comprehensive, and constructive presentment, in a popular form, of the now irresistible evidence for the evolution of man.' This, from the practised hands of the translator of *The Riddle*, will doubtless be an exceedingly able and attractive restatement of the whole grounds of Haeckel's doctrine of man.

Now, it stands to common sense that such a series of vigorous and skilfully directed efforts as is represented in the above summary, cannot be without effect. It is confessedly difficult to estimate, from our insular position, what is the real result of this 'monistic' campaign upon the Continent, although there would appear to be good reasons for thinking it by no means small.¹ But in this country there are only too good grounds for believing that the influence of the foregoing publications, is much more considerable than is usually acknowledged in Christian circles. It may be true that the majority of those who are actually identified with the Churches are

¹ In a private note, Dr. Dennert, the accomplished author of *Die Wahrheit über Ernst Haeckel und seine Welträtsel*—a work well worthy of careful perusal—says, 'Sein Einfluss bei jungen und kritiklosen Leuten ist in Deutschland leider sehr gross.' And this writer has certainly abundant opportunities for judging fairly.

unaffected; nor do thinking young people, as a rule, open their minds to parents or pastors. But, on the most generous interpretation of the recent census of worshippers, there are yet at least three-fourths of our adult population unaccounted for. These latter are certainly not avowed agnostics; nor is their attitude towards Christianity in general definitely antagonistic. But they constitute precisely the soil in which such sowing of popular 'rationalism,' under scientific guise, is likely to bear fruit. There are abundant evidences, for those who decline to close their eyes, that such fruit is not lacking. Nor is there anything either specially wise or Christian in persistently ignoring the undeniable influences of the modern atmosphere, or thinking that these all will right themselves if only 'let severely alone.'

It is no doubt partly true that Haeckel is 'out-of-date.' There are good reasons for the estimate recently expressed by Sir Oliver Lodge:

Professor Haeckel's voice is the voice of one crying in the wilderness, not as the pioneer of an advancing army, but as the despairing shout of a standard-bearer, still bold and unflinching, but abandoned by the retreating ranks of his comrades, as they march to new orders in a fresh direction.¹

This may of course be challenged on the ground that the purely scientific basis of Haeckel's monism is most modern. Yet it is just as possible to be unscientific by excess as by defect. And there is certainly no warrant in present-day science for the confidence with which this 'system' prophesies. It builds even more largely upon the future filling in of

¹ *Hibbert Journal*, January, 1905, p. 324.

'gaps' than theology does upon their past existence. Whereas all we now know is that evolution has come to stay, and that the completeness of the sweep of its application, upon which Haeckel's monism so continually insists, is becoming more and more pronouncedly the dictum of some leading men of science.

Professor Haeckel would no doubt reply to some of the above criticism, that he is not only a man of science, but a philosopher; that he is looking ahead, beyond ascertained fact; and that it is his philosophic views which are in question, rather than his scientific statements. If that is clearly understood, I am perfectly content.¹

So says, truly enough, Sir Oliver Lodge. But unfortunately it is precisely this which is not 'clearly understood.' It is far from easy for the ordinary reader to distinguish between philosophy and science. The latter being confessedly up-to-date, it is a natural conclusion for the man in the street that the accompanying inferences are both modern and reliable. Nor is it of much avail—at all events, for those who desire to conserve and emphasize Christian convictions—to affirm that the most recent and apparently growing tendency of philosophic thought is rather in the direction of educing matter from spirit than spirit from matter. For this, unless most carefully guarded, leads by the simplest of short cuts directly to pantheism. Such an issue would suit Professor Haeckel and his friends exactly. He stoutly affirms that—

The charge of atheism, which still continues to be levelled against our pantheism and against the monism which lies at

¹ *Hibbert Journal*, p. 323.

its root, no longer finds a response among the really educated classes of the present day. The monistic idea of God, which alone is compatible with our present knowledge of nature, recognizes the divine spirit in all things.¹

Moreover, if reference be made to the validity of religious experience, as a scientific fact of unimpeachable significance, the psychologist who is most often quoted with admiring respect as an authority herein assures us not only that he is unable to accept either 'popular Christianity'—whatever that may mean—or scholastic theism, but that belief in God and personal immortality are quite secondary matters.

In the interests of intellectual clearness, I feel bound to say that religious experience, as we have studied it, cannot be cited as unequivocally supporting the infinitist belief. The only thing that it unequivocally testifies to is that we can experience union with something out-larger than ourselves, and in that union find our greatest peace. All that the facts require is that the power should be both other and larger than our conscious selves. Anything larger will do, if only it be large enough to trust for the next step. It need not be infinite, and it need not be solitary. It might conceivably even be only a larger and more godlike self, of which the present self would then be but the mutilated expression, and the universe might conceivably be a collection of such selves of different degrees of inclusiveness, with no abstract unity realized in it at all. Thus would a sort of polytheism return upon us. I think, in fact, that a final philosophy of religion will have to consider the pluralistic hypothesis more seriously than it has been willing to consider it.²

Such sentiments will doubtless be unacceptable to the followers of Professor Haeckel. But they bring also cold comfort to all those who, in the name of his monism, are bidden stand and deliver up every-

¹ *Confession of Faith*, pp. 80-7.

² *Varieties of Religious Experience*, Professor Wm. James, p. 525.

thing they have previously held to be as true as precious in Christian theism.

From all the foregoing it is fairly manifest that the comfortable assurance—by no means uncommon in the Churches—that ‘Haeckel does not count’ is, as already intimated, only an infatuation of the same order as the reported practice of the pursued ostrich. The mood of faith which, in these respects, cannot see the wood for the trees is not one recommended in the New Testament, nor does it promise well for coming generations. It is both childish and unworthy to assume that all unbelievers must be either feeble-minded or evil-hearted. The names, for instance, of those who constitute the working associates of the Rationalist Press Association—as appended to the English translation of Professor Haeckel’s latest work—are those of men meriting the utmost intellectual respect. Their efforts, proceeding from sincere conviction, will certainly neither cease nor become ineffectual by reason of any papers read, or any resolutions passed, at an Anglican Congress or a Methodist Conference. However much one may differ from the findings of Mr. McCabe, or regret the acerbity of his championship of atheistic monism, there is no more reason to question the acuteness of his mind than the integrity of his purpose.

The strenuousness of the opposition to Haeckel’s views in his own land, and even amongst his own University colleagues, is unknown in this country, because the reviews and pamphlets in which it is

embodied have not found translation into English. Several of these, however, well merit such translation, nor is it too much to affirm that, so far as Haeckel's philosophy is concerned, apart from his science, they sufficiently dispose of the hollowness of its large pretensions.¹

It must be candidly acknowledged that most of these are as far from what is termed 'evangelical religion' as Haeckel himself. Even the theologians Drs. Loofs and Nippold would not be accounted 'orthodox' in our midst.² So that their vigorous onslaught upon the *Welträtsel*, though manifestly

¹ Professor Haeckel himself, in the 'Nachwort' attached to the latest popular edition of his *Welträtsel*, takes notice of five of these in summary reply. These five, with one equally worth careful study, which he does not mention, are as follows: *Philosophia militans, gegen Klerikalismus und Naturalismus*, von Friedrich Paulsen (Berlin: Reuther & Reichard); *Kant contra Haeckel, Erkenntnistheorie gegen naturwissenschaftlichen Dogmatismus*, von Dr. Erich Adickes (Berlin: Reuther & Reichard); *Die naturwissenschaftliche Methode in ihrer Anwendung auf die Religionsgeschichte*, von Friedrich Nippold (Berlin, 1901); *Anti-Haeckel, eine replik nebst Beilagen*, von Dr. Friedrich Loofs (Halle) [this has been rendered into English, and is published by Messrs. Hodder & Stoughton]; *Die Wahrheit über Ernst Haeckel und seine Welträtsel*, von Dr. E. Dennert (Halle: S. E. Müller); *Probleme kritische Studien über den Monismus*, von Dr. H. v. Schoeler (Leipzig: W. W. Engelmann).

² Whilst the exposure by Dr. Loofs of Haeckel's pitiful seventeenth chapter, on 'Science and Christianity,' is as richly deserved as it is thorough, the general tone of this polemic is certainly to be regretted as a specimen of Christian defence. And in regard to Professor Nippold, although Haeckel estimates him as one 'der unter allen Gegnern der Welträtsel nicht nur den höflichsten und versöhnlichsten Ton anschlägt, sondern auch am eingehendsten und ehrlichsten seine abweichenden Ansichten zu begründen sucht,' yet he also records that his 'Antrittsrede,' when he succeeded to the chair of Professor Carl Hase, 'die grosses Aufsehen unter seinen theologischen Kollegen und lebhaften Beifall unter seinen Kollegen anderer Fakultäten erregte.'

free from 'orthodox' bias, counts rather negatively than positively, in defence of the articles of Christian belief. The same remark finds real application to some of the most recent works called forth in this country by Haeckel's crusade.

Thus, if anything like the 'evangelical' conception of the meaning and mission of Christianity be adopted, the seriousness of the modern situation is patent enough to all but the wilfully blind. No thoughtful Christian suggests alarm, much less panic. The remarkable wave of quickened Christian feeling which has not only spread throughout this country but made itself manifest across the seas, promises to leave behind it valid and hopeful results. Genuine Christianity is ever justified quite as much in its preventive as in its curative influences, and that no less in the community than in the individual. But if its fundamental conception of a 'kingdom of heaven' upon earth is ever to be realized, it can only come to pass by the deepening of personal conviction in regard to the historical facts and moral principles upon which that kingdom rests.

Now it is just here that the recent furious onslaught, popularized in *The Clarion* and elsewhere, seeks to make impression. It was entirely natural that the German works above specified should form at once the material and the occasion for the outburst in the English press. Popular disbelief is never so confident as when it thinks itself justified by modern science. Certainly Haeckel and his followers are warranted in their loud proclaiming

that *if* his 'philosophy' is well grounded, there is an end of what is generally understood by Christianity.¹ The now famous seventeenth chapter of *The Riddle*, in all its lamentable unworthiness, is after all but the natural consequence of the modern attitude so often adopted as scientific. Between that which Haeckelian monism considers to be religion, and Christianity, no eirenicon is possible. It is but mockery that the author of *The Riddle* should write, at the close of his volume:

I must not, however, take leave of my readers without pointing out in a conciliatory way that this strenuous opposition may be toned down to a certain degree on clear and logical reflection—may, indeed, even be converted into a friendly harmony.

Such a sentiment seems only to illustrate the author's own next sentence: 'Unfortunately, consecutive thought is a rare phenomenon in nature.' For the slightest application of 'consecutive thought' must demonstrate how unthinkable is any harmony whatever, between the conception of God as revealed by Jesus Christ, and the 'gaseous vertebrate' which Haeckel repeatedly seeks to foist upon the belief of Christendom. All right-minded men can only conceive with a shudder of utter repulsion, his suggested tracing of the Christ of the Gospels to a result of the licentious amours of a Roman soldier with an unprincipled Jewish maid.

¹ It is but a mild statement of this when Haeckel says, in his 'Nachwort': 'Wenn meine einheitliche und naturgemässe Weltanschauung richtig ist, so muss sie auch zu einer zeitgemässen Reform der Religion und Sittenlehre, mindestens zu einer natürlichen Begründung derselben hinführen.'

In face of such a monism, with such consequences, there is nothing for it but rationalism. Only it must be alike genuine and modest. As to the former, there need be no hesitation in accepting that which is found bound up at the end of *The Wonders of Life*, framed though it be by anti-Christian propagandists:

Rationalism may be defined as the mental attitude which unreservedly accepts the supremacy of reason, and aims at establishing a system of philosophy and ethics verifiable by experience, and independent of all arbitrary assumptions or authority.

But the very fact that every instructed Christian will heartily welcome such a definition, and recognize in it only the familiar principles of his own faith, ought to suggest to unbelievers the immodesty of their common assumption, when their Rationalism is spelt with a capital letter and adopted as the war-cry of a sect not one whit less dogmatic than any other. Christ Himself, we know, put to His hearers the crucial question which for all time constitutes the essence of valid rationalism: 'Yea, and why even of yourselves judge ye not what is right?'¹ To which the apostolic echo is also clear enough: 'Prove all things, hold fast that which is good.' 'Let each man be fully assured in his own mind.'² What can modern 'Rationalism' suggest more reasonable than such principles? Or, yet again:

Finally, brethren, *whatever is true*, whatever wins respect, whatever is just, whatever is pure, whatever is lovable, whatever is of good repute—if there is any virtue or anything deemed worthy of praise, cherish the thought of these things.³

¹ Luke xii. 57.

² 1 Thess. v. 21; Rom. xiv. 5; Phil. iv. 8 (Weymouth's *New Testament in Modern Speech*).

Can the much-vaunted 'monistic science' desire to go beyond the words italicized? Or can Monistic ethics offer us anything better than the ideal here presented?

In all probability, the following pages will be as little appreciated by many believers, as welcome to many unbelievers. But they are not written for those who are content either with present faith or unfaith. Nor do they pretend to be an end of controversy for those who are troubled. They are but a contribution, none the less real or sincere for being necessarily negative, towards the true understanding and appreciation of both ourselves and our environment. Christian belief has yet much to learn from modern science. Science also, proving its genuineness by modesty, has much to learn from Christian philosophy. In any case, untruth and flippancy, conceit and rancour, must be wrong. In the present-day conflict between monism and dualism, theism and agnosticism, Christian conviction and anti-Christian opposition, the New Testament ideal ought to find universal acknowledgement: 'Let all bitterness, and wrath, and anger, and clamour, and railing, be put away from you, with all malice.' For, as the late Aubrey L. Moore finely said, 'Human nature craves to be both religious and rational; and the life which is not both is neither.'¹

¹ *Luz Mundi*, fourth edition, p. 109.

I

A LESSON IN MODESTY

'If a man of science seeks to dogmatize concerning the emotions and the will, and asserts that he can reduce them to atomic forces and motions, he is exhibiting the smallness of his conceptions, and gibbeting himself as a laughing-stock to future generations.'

SIR OLIVER LODGE, *Hibbert Journal*, January, 1905, p. 319.

'A man who fancies that he can dictate a complete system to the world only shows that he is arrogant to the verge of insanity.'

SIR LESLIE STEPHEN, *An Agnostic's Apology*, p. 366.

'Is it credible that such a mushroom knowledge, such a growth overnight as this, can represent more than the minutest glimpse of what the universe will really prove to be when adequately understood? No! our science is a drop, our ignorance a sea. Whatever else be certain, this at least is certain—that the world of our present natural knowledge is enveloped in a larger world of some sort, of whose residual properties we at present can form no positive idea.'

PROFESSOR W. JAMES, *The Will to Believe*, p. 54.

'Empörend ist es aber, wie Haeckel diese Dinge behandelt. Mit vollen Händen streut er seinen Lesern Sand in die Augen. Was man bisher nur hoffen und wünschen oder höchstens als wahrscheinliche Hypothese gelten lassen kann, erscheint bei ihm im Gewande absoluter Notwendigkeit. Er schreibt für ein grösseres Publikum, das den Stand der wissenschaftlichen Probleme nicht kennt.'

PROFESSOR ADICKES, *Kant contra Haeckel*, p. 100.

I

A LESSON IN MODESTY—BY EXAMPLE

WITH the concluding words of the preceding section in one's ears, it may seem not only painful, but unnecessary, to proceed to a detailed examination of instances in which the very opposite spirit makes itself manifest. When, however, we find one of the most vigorous of recent polemics against the Christian faith, commencing its assault by an appeal to the people on the ground of its superior 'modesty' and controversial manners, the examination of its claims in this respect becomes definitely important. It has been said that most persons are ready to believe any statement when it has been made three times. In which case the readers of Haeckel's works, as lauded and magnified by his self-appointed English champion, must be super-abundantly persuaded that not only all the knowledge, but all the sincerity and courtesy, are on the anti-Christian side. This, if it were substantiated, would be a serious charge against the ethics of faith. The creation of a popular impression is not seldom as easy as it is serious. The author of *Haeckel's Critics Answered* does 'not hesitate to say that

there are tens of thousands of lower middle-class readers in England who can read Haeckel more intelligently than the majority of the Catholic clergy.' At the same time we are also informed that the Romish clergy 'have had more definite philosophical instruction than their Protestant colleagues.' Whence the inference is manifestly intended, that the Churches, taken as a whole, are in a parlous condition so far as intelligence is concerned. For if the teachers are blind, how can the pupils see? This, one would think, is a sufficiently 'modest' suggestion at the outset.

But it is an ephemeral trifle, by comparison with the phraseology in which Haeckelian monism is introduced to the modern British public by its apt and eager translator. He is not, however, responsible for the 'modesty' exhibited in the first and smallest of the three works of Professor Haeckel, mentioned above. The *Confession of Faith of a Man of Science* is really the nucleus of all that follows, and is in itself quite sufficient as a summary statement of the author's monism. It can scarcely be deemed the most modest or courteous way of pointing out the phylogenetic results of recent science, to assert that 'it is only the ignorant or narrow-minded who can now doubt their truth,'¹ especially when we reflect that the famous German pathologist, Virchow, is involved in this condemnation. But it is quite consistent with this, as a keynote, to be soon after informed, in regard to the belief in

¹ p. 39.

personal immortality, that 'if any antiquated school of purely speculative psychology still continues to uphold this irrational dogma, the fact can only be regarded as a deplorable anachronism.'¹ One might meekly suggest that the late Dr. Momerie was as well acquainted with logic as Professor Haeckel is with biology. But it would doubtless avail nothing in dealing with the 'modesty' which affirms² not only that the 'conception of a personal devil has already been given up once for all by all persons of education,' but that 'the beautiful dream of God's goodness in nature no longer finds credit now—at least among educated people who think.'

It is perhaps only natural that Strauss should be extolled as a 'clear-sighted author' and 'the greatest theologian of our century,' so as to throw up into fitting contrast the 'short-sightedness almost inconceivable' of Du Bois Reymond's 'well-known *Ignorabimus* address on the "boundaries of natural knowledge," in 1872.' But it must be surely a peculiarly noteworthy expression from one who styles himself³ the 'modest guide' of his readers, when they are informed⁴ that his particular confession of faith in Monism is shared by 'all men of science who possess sufficient acquaintance with science; sufficient acuteness of judgement; sufficient moral courage; and sufficient strength of mind to free themselves from religious prejudices.' Of a truth, if this 'pronouncement'—to quote Mr. McCabe

¹ *Confession*, p. 54.

² *Wonders of Life*, p. 470.

³ pp. 70, 74.

⁴ *Confession*, p. 60.

—'is fragrant with modesty, we shall need to reconsider our moral terminology.'

But it becomes really necessary, seeing that Haeckel's champion is never tired of representing him as the innocent victim of unmeasured religious abuse, to look carefully into his larger works, if we would appreciate the 'manner in which he pursues and expounds his speculations.'¹

Glancing first at generalities, we are assured at the commencement that it is not about mediaeval theology that he is troubled, but that 'in the church of a liberal Protestant minister, who has a good average education, we hear ideas on the nature of God, of the world, of man, and of life, which are directly opposed to all scientific experience.' So that 'it is no wonder that physicists and chemists, doctors and philosophers, who have made a thorough study of nature, refuse a hearing to such preachers.'² In accordance with this estimate is the later suggestion, that 'any impartial scholar must admit that the crude notion of an eternal life is not a comfort but a fearful menace to the best of men. Only want of clear judgement and consecutive thought can dispute it.'³ From this it is an easy step to the mild assertion that Strauss's last work 'is a magnificent expression of the honest conviction of all educated people of the present day, who understand the unavoidable conflict between the discredited dominant doctrines of Christianity,

¹ *Haeckel's Critics Answered*, p. 9.

² *Riddle*, p. 4.

³ p. 74.

and the illuminating rational revelation of modern science.’¹ Whence follows the ostensibly historical summary, that during recent years ‘Liberal Protestantism’ has taken ‘refuge in a kind of monistic pantheism,’ and ‘the conviction rapidly spread that dogmatic Christianity had lost every foundation’; but that meanwhile, ‘there has arisen that widespread religious profession in educated spheres which we can only call Pseudo-Christianity—at the bottom it is a religious lie of the worst character.’² To multiply such quotations were as easy as unprofitable. They require no comment beyond the reminder that they are fair specimens of the style with which readers are invited to accompany their ‘modest guide’ throughout the broad domain of the Monistic philosophy.³

When we come to consider personalities—as perforce we must—they are interesting indeed. Most readers with any approach to impartial minds, have appreciated the delicious ‘modesty’ with which the writer, himself a septuagenarian, refers to the ‘entire change of philosophical principles’ which we find in Wundt, Kant, Virchow, Du Bois Reymond, Karl Ernst Baer, and others, from an early agreement with Hæckel’s monism to emphatic opposition, as explained by the fact that ‘with old age there comes a gradual decay of the brain, just as happens in all other organs.’⁴ This is said to be ‘an instructive psychological fact.’ It would surely seem that the instruction

¹ *Riddle*, p. 109.

² p. 114.

³ *Wonders*, p. 470.

⁴ *Riddle*, p. 37.

is rather relative to the ethics of Monism ; especially when we find it to be quite typical of the manner of reference in other cases. Professor Haeckel is greatly concerned about Kant and his philosophy, but his contemptuous references to 'the young, severely critical Kant and the older dogmatic Kant,' whom he is pleased to style Kant I and II, will come under consideration later on.¹ We may just note in passing his estimate of others. In regard to the '*Ignorabimus* speech' of Du Bois Reymond at Leipzig in 1872, we are told that the censure 'came at first only from the few who had sufficient scientific knowledge and moral courage to oppose the dogmatism of the all-powerful secretary and dictator of the Berlin Academy of Science.' Whilst in a later speech (on Neovitalism, 1894) we are informed that 'Du Bois Reymond here shows, as in the question of consciousness, the shallow and illogical character of his monistic thought.'² Karl Ernst Baer, we are assured, 'was a scientist of the highest order.' That is, so long as he agreed with Haeckel. But afterwards,

¹ It may, however, be interesting to quote here Professor Paulsen's judgement concerning the critical worth of these references: 'Wenn aber die beschränkte Zeit unserem philosophen nicht gestattet so langwierige philosophische Untersuchungen zu lesen, die dazu noch etwas unbequem geschrieben sind, und freilich auch keine Lösung der Welträtsel wenigstens auf seine Art, in Aussicht stellen, so möchte ich ihm den unmassgeblichen Vorschlag machen, den Namen Kant in seinen künftigen Veröffentlichungen lieber zu vermeiden. Man weiss wirklich nicht worüber man mehr staunen soll, über den Mangel an Kenntnissen oder über den fröhlichen Leichtsin mit dem er von Dingen redet, von denen er nur von fern gehört hat.'—*Philosophia Militans*, pp. 163, 168.

² *Riddle*, pp. 64, 84.

'his original monistic views were gradually marred by a tinge of mysticism with the advance of age, and he eventually became a thorough dualist.' So that when, in 1859, phylogeny 'was established by Darwin, the aged Baer was no longer in a position to appreciate it.'¹ Yet the aged Haeckel remains clear-minded and infallible! In regard again to the great Newton, it is not enough that the false assertion should be made that Newton 'deduced from his law of gravitation the action at a distance without a medium,' than which one would have thought any fairly educated schoolboy would know better;² but the reader is further 'instructed' to the effect that 'the great English mathematician passed the last thirty-four years of his life in an obscure labyrinth of mystic dreams and theistic superstition.'³ It is, of course, perfectly in accord with what Professor Adickes calls so truly 'Haeckel's Leichtfertigkeit in Behaupten,' that he should assert that all the 'alleged marvels of spiritism have been traced to a more or less clever deception,' but as regards 'biologists' of such distinction as Dr. Wallace and Dr. Crookes (the latter will no doubt be equally surprised and delighted to learn of his eminence in this field), we are also bidden understand that they were 'led astray partly by their excess of imagination and defect of critical

¹ *Riddle*, p. 95.

² Newton's own words, concerning this 'action at a distance,' are: 'It is to me so great an absurdity, that I believe no man who has in philosophical matters a competent faculty of thinking, can ever fall into it.'

³ *Riddle*, p. 77.

faculty, and partly by 'the powerful influence of dogmas which a religious education imprinted on the brain in early youth.'¹ Flammarion, the distinguished 'Parisian astronomer,' fares no better. His works have been extremely popular, but they are distinguished 'by a deplorable lack of critical judgement and biological knowledge.' Of the late Professor J. G. Romanes we are told in the earlier² volume that his work was 'splendid and his volumes are amongst the most valuable productions of psychological literature.' Afterwards, however, there happened 'in this case, just as in the case of the aged Baer, one of those interesting psychological metamorphoses which I have described in chap. vi. of *The Riddle*.' And lest we should be even more amused than indignant at such impudent conceits, the translator comes to the rescue with the grave assurance that 'English readers of Romanes' *Thoughts on Religion* will recognize the justice of this analysis.' Those English readers, however, who have not lost all their senses, are more likely to recognize something else, even the consummate impertinence of these writers as they thus complacently ascribe to senile decay and mystic influences, acting through depression and melancholy, every departure from their own pronouncedly infallible Monistic conceits.³

¹ *Riddle*, p. 108.

² *Riddle*, pp. 38, 39.

³ This is particularly the case with regard to Dr. Romanes, who is persistently represented as having failed mentally in his illness. It is, as Dr. Gore has publicly pointed out, nothing but 'a malignant slander.' Dr. Burdon Sanderson himself says (*Proceedings of Royal Society*, vol. 57, p. 8): 'Up to the end he preserved not only his

The latest work shows perfect consistency in these respects with the earlier. It is true that the writer genially assures us that the 'conciliatory disposition has grown stronger' in him. But when we come to look for the manifestations of it, the conciliation turns out to be of a remarkable quality. Thus, in reference generally to those who differ from him, this 'genial' writer avers that 'most of the representatives of philosophy at the universities are narrow metaphysicians and idealists, who meet the difficulties of modern biology by a sort of verbal gymnastic and sophistry.¹ Elsewhere,² they are said to be in 'complete ignorance of the real facts,' in regard to human nature, the adduced proof being that 'in their one-sided anthropism' they 'would assign personal consciousness as the basis of the idea of individuality.' Whence it follows that 'the curious sermons of these modern sophists are no longer noticed by any competent and informed scientist.' As for those who still dare to believe 'in a conscious Providence,' they are of course 'simple children and dull believers,' whose 'phrases no longer impose on educated people in the twentieth century.'³

mental vigour, but the keenest interest in his scientific pursuits. No one could possibly speak with greater impartiality or more scientific authority than he.' In face of such testimony, the ethics of Monism ought to be ashamed to repeat such a slander. As to the *Thoughts on Religion*, the reader should judge for himself, undeterred by any sneers.

¹ *Wonders of Life*, p. 73.

² p. 158.

³ Those readers of Haeckel's latest German edition of the *Welträtsel*, who have been impressed by his reference to Dr. Dennert's booklet as 'eine bunte Sammlung von Verdächtigungen und Schmähungen aller Art, die theils auf reinen sophistischen Einstellungen und

But this 'conciliatory' modesty only does itself justice when directed towards individuals. Thus 'the metaphysician Hans Driesch' has the misfortune to hold other views concerning the constitution of the universe than those of the famous biologist of Jena. The necessary inference¹ is that his 'vitalist writings are devoid of any grasp of historical development, but have gained a certain vogue through the extraordinary arrogance of their author and the obscurity of his mystic and contradictory speculations.' In order to put this beyond doubt we are further informed² that 'the arrogance of this conceited writer is about equal to the obscurity of his biological opinions, the confusion of which is covered by a series of most extravagant metaphysical speculations.' It is the same in regard to three other students of science, who, with charming 'modesty,' are pronounced eminent so long as they agree with the apostle of mechanical monism,³ but manifest their folly as soon as ever they venture to differ. Keibel, for instance,⁴ is the author of 'carefully descriptive embryological works,' but in regard to the 'biogenetic law' upon which Haeckel insists, 'he has so little mastered it that he has never understood the distinction between

Verdrehungen meiner Lehren beruhen, theils auf reinen Erfindungen und Verleumdungen,' would do well to read for themselves also chapters iv. to viii. in Dr. Dennert's little work, *Die Wahrheit über Ernst Haeckel und seine Welträtsel*, and more especially that entitled *Haeckel's Kampfweise gegen andere Gegner*.

¹ *Wonders of Life*, p. 53.

² p. 379.

³ p. 398.

⁴ Inasmuch as the word 'monism,' when standing alone, is capable of several interpretations, its commencement with a capital letter, in the following pages, always indicates that Haeckel's 'system' is intended.

palingenesis and cenogenesis.' Oscar Hertwig, again, was 'one of our most distinguished embryologists,' but, alas!! in an evil hour he 'has lately joined the opponents' of Haeckel's law. How can this be accounted for? Only by 'the psychological metamorphosis which Oscar Hertwig has undergone at Berlin.' Wilhelm His 'has rendered great service to ontogeny by his accurate descriptions,' but he does not follow Haeckel. What conclusion can be drawn save that he 'has no idea of comparative morphology'? These are indeed but specimens out of a host of similar utterances. But they are sufficient to show quite clearly what the author of *Die Welträtsel* considers to be the 'conciliatory disposition' of a 'modest guide.'

It is, however, the translator and self-constituted champion of Professor Haeckel who pronounces himself specially qualified to give the Christian world 'a lesson in modesty.'¹ To him, therefore, it becomes our particular duty to listen. A very little careful scrutiny suffices to show that his understanding of the term 'modest' is the same as his master's—only more so. With the meekest of suavity we are informed² that 'truth is a frail spirit that must be sought with patient and calm investigation; its pursuit should be conducted with dignity, and especially with a scrupulous honesty.' With which ideal assuredly no Christian advocate worthy of the name will disagree. But how far the practice of this writer agrees with his precept, we find in the very next sentence. Here the reader is assured that the 'campaign against Haeckel's

¹ *Haeckel's Critics Answered*, p. 7.

² p. 125.

views has been marked by malignant abuse and persistent misrepresentation, by statements which cannot be conceived as other than untruths, by gross perversion of the teaching of modern science, and by a score of devices and stratagems that would disgrace the conduct of a heated political campaign. It is by these means that one-fourth of the people are held attached to the old beliefs.' In the same 'modest' strain we are asked whether it is conducive to human welfare 'that this corporation of the clergy should continue in the twentieth century that mistaken conceit about the truth of their cosmic views which inspires them with such dishonourable tactics?' Then, by way of illustrating his thesis concerning 'scrupulous honesty,' the reader is assured that 'thousands of the clergy of all denominations are only too eager to disavow the old formulæ, but are forced by the majority of church-members to utter untruths at the very moments when they are pleading for truth and honour and sincerity.' With a view to accentuate this unmeasured libel, it is added that 'we have the spectacle of Christian journals complaining that the lack of honesty is one of the most prominent features of theological literature.' How 'scrupulously honest' this wild slander is, may be truthfully estimated from the only proof of it which can be discovered, namely, that in *one* Christian journal an article *once* appeared in which an *anonymous* theologian is *quoted* by a writer as having *thought* so! *Ex uno disce omnes!*

The 'calm and patient spirit in which the frail

spirit of truth' is pursued by this writer is manifest in his demand¹ that 'the change' from Christianity to Haeckel's monism, should 'be effected as quickly as possible, and the moral idea be swiftly disentangled from its decaying frame of dogma.' What is immediately needed, is 'to sweep away the whole tottering structure of conventional religion and worship—the swift abandonment to metaphysicians of all these cosmic speculations.' From an ex-priest who has only just thrown off his robes, such lurid speech is, to say the least, somewhat precipitate.

But it is not until we come to a detailed scrutiny of the pages composing this brochure, that we obtain a full apprehension of what is meant by 'modesty' in religio-scientific controversy. Out of possible quotations from every page, a few only need be selected. As to whether these are 'scrupulously honest,' the reader who doubts can soon discover for himself.

It is, at the very outset,² the lightest of light matters to dismiss as 'rubbish' the whole series of small booklets published during recent years by the Religious Tract Society, under the name of 'Present-day Tracts.' Now, whilst it may be acknowledged that the title is not attractive, and that all the eighty-four numbers of the series are not of equal value, yet if the man of ordinary intelligence will procure a tithe of the total issue, and note fairly who the writers are and what they actually urge, he will be in a position to estimate the consummate impertinence with which this

¹ *Haeckel's Critics Answered*, p. 126.

² p. 14.

would-be teacher of modesty herein sweeps out of his path all and sundry who have the misfortune to think otherwise than himself. When indeed we are magisterially informed that 'dust-throwing and mud-throwing are not the methods of truth-seekers: they are the devices of timid and foolish partisans,' we are driven to ask why, in that case, this pamphlet was ever published? It cannot of course be denied, that for all such as share the author's opinions concerning the person and work of Professor Haeckel, these pages will be sufficiently 'spicy' to prove a great attraction. It becomes definitely enjoyable to see objections to Haeckel's monism loftily dismissed as 'all these petty criticisms.'¹ Thus, 'when we have shaken off this group of not very enlightened critics,'² reads well, and leads up to the next degree of infallibility. 'Let us see how puny and fruitless are the efforts they make,'³ who dare to oppose Haeckel's 'monistic system.' All objections to Haeckel's particular way of conceiving the first formation of life, or consciousness, are of course 'quibbles,'⁴ and the 'chief champions of reasoned Christianity to-day' can only produce a 'surging flood of rhetoric'⁵ against 'Haeckel's scientific position.' Indeed it is only 'on the strength of such verbiage and sophistry as this'—to be considered presently—that Haeckel's monism is rejected by hoodwinked victims of clerical hypocrisy. In regard to the too well known and truly scurrilous

¹ *Haeckel's Critics Answered*, p. 36.

² p. 40.

³ p. 65.

⁴ p. 69.

⁵ p. 79.

seventeenth chapter in *The Riddle*, upon 'Science and Christianity,' it is not necessary to say much here. That the replies to it should, however, be all dismissed as 'this dust-throwing and mud-throwing,' is but a typical example of the constant reiteration of this writer's favourite metaphor. The style of Dr. Loofs as a controversialist may leave something to be desired, from the standpoint of the Christian spirit, but two things must be pointed out with unflinching plainness. First, that even in this respect, Professor Loofs's issue will bear thorough comparison with Mr. McCabe's booklet; whilst as to what Professor Haeckel terms 'the remarkable work of the learned and acute English theologian Saladin' (Stewart Ross), and says openly 'I myself build for the most part on this source,'¹ the style of Dr. Loofs is as 'mellow music' matched with

the dragons of the prime
That tare each other in their slime,

when put side by side with this writer's *Jehova's gesammelte Werke*. Yet, secondly, the real question is not as to verbal 'mud-throwing' on the part of any one, but simply whether Haeckel's alleged historical representations concerning Christ and Christianity are true. And for that, so far as regards Loofs, every honest reader may be left to judge for himself. So that if 'dust-throwing' is to be thought about in this connexion, a more real instance of it cannot be conceived than to attempt

¹ v. *Anti-Haeckel*, English edition, pp. 74, 75.

to cover up the utter exposure of Haeckel's falsities, by the assertion that Dr. Loofs's attack 'is one of the most disgraceful episodes of this dreary controversy.'¹ Certainly there is nothing 'dreary' in the virulence of the pages of Haeckel's English champion.

Whilst, however, one can scarcely appreciate the 'modesty' of general sneers at the 'descent from the level of science to the level of Christian Evidence lecturing,'² it is not until we come to 'personalities' that the meekness of our ex-Romish Professor does itself justice. It is, alas! inevitable, in the interests of truth, that we should cast a passing glance at these.

Mr. McCabe informs the world that he has 'waded through the turgid flood of criticisms' called forth by Haeckel's works, and finds 'nothing half so insulting and offensive in Haeckel' as in these. Other readers must be left to form their own judgement upon the facts—seeing that, in his reply, this author appears unable to controvert a single writer without more or less of personal contumely.³ In every single case it is either definitely asserted or manifestly implied, that the speaker or writer who differs from him is either fool or knave. Dr. Horton early comes under his lash. Readers are informed that (10) 'his audience were shaking with suppressed laughter'

¹ *Haeckel's Critics Answered*, p. 86.

² p. 112. The further references to pages are put in brackets.

³ As I do not wish to obtrude personal matters upon the reader, and yet it seems necessary for the truth's sake to estimate the quality of this writer's many and pointed references to myself, such notice as they merit will be found in a note at the end of this section.

while he preached to 'his trustful congregation'—that is, he made such a fool of himself in doing so. He is pronounced twice as offensive as Haeckel. His 'insincere rhetoric' (62) does not merit discussion; but (100) he 'has a title to leniency, because of his obvious ignorance of the entire subject.' Mr. Ambrose Pope (a double University graduate) only perpetrates 'a stale joke' (70) in attempting to criticize Haeckel, and 'a grosser travesty of his system it would be difficult to conceive' (53). Mr. Rhondda Williams, who had the temerity to preach upon the subject to 'his weaver admirers' (72), is simply guilty of 'eagerness to score rhetorical points' (26), and only illustrates 'his essential confusion' (31); his 'storm-cloud of rhetoric would be called clever from the intellectual point of view, but by a different name from the moral standpoint' (53, 54). The reader is commiserated over Mr. Williams's 'petty quibble and pedantic effort' (55), issuing, as it does (56), only in a 'farrago of rhetoric,' and composed of 'plausible arguments that he has borrowed' (79). Dr. Dallinger has performed, it seems, a wonderful gymnastic feat, with which one would scarcely have credited so careful a scientist. He has 'skipped from boundless immensity to finiteness' (32), quite 'in a slovenly fashion' (24). Lord Kelvin has been 'guilty of the gravest impropriety' (109) in speaking of 'creative power'; and in daring to use the phrase 'fortuitous concourse of atoms' (72), he has displayed 'a grave piece of insincerity or else ignorance'—i.e. in plain English he is, as

above stated, either a fool or a hypocrite. Dr. Iverach, having presumed to write upon these matters, is especially foolish. He is (45) 'one of those hesitating teachers who are continually criticizing scientific results with some vague notion of serving religion'; but (37) 'the old Adam is still strong in him, and he is keen on gaps,' and, moreover (36), 'he *does* raise much dust as he goes along.' (This writer's fondness for 'dust' as a metaphor, is really an interesting, not to say amusing, psychological phenomenon.) He assists (53) to 'raise a medley of small points and irrelevant difficulties' (51), but in the end only displays (79) 'the inanity of his assertion.' Mr. John Fiske¹ is but the author of 'petty and petulant criticism, which is one of the mysteries of religious controversy' (66). Mr. R. J. Campbell, of the City Temple, who has dared to mention these subjects in public, is (81) not only 'bewilderingly inconsistent,' but also guilty of 'malignant and dishonourable tactics' (94); so that he affords an admirable object-lesson as to the ignorance of preachers in comparison with the knowledge of their critics. The involved 'modesty' is too delicious to miss. 'We see, at a glance, how little he knows of all the moral codes and what they have done. *We* who watch the advance of comparative religion and ethics, and of the criticism of the New Testament, know what will eventually' happen (96). Dr. J. Orr, of Glasgow, has ventured to say that a number of secularist

¹ cf. *Through Nature to God*, p. 144.

leaders have become Christian (122). But his 'miserable effusion' only means that he does not know the difference between truth and falsehood. Concerning the three names mentioned, viz. Joseph Barker, Thomas Cooper, and G. J. Romanes, 'the former two,' we are told (122), 'were of no intellectual standing, and are hardly termed leaders.' Those who were personally acquainted with them will best know how to estimate this sneer. But as regards Romanes, more is to be noted. 'As he says, it was by the sacrifice of his intellect, by ignoring his scientific temperament, by an effort of will, that he succeeded in assenting to what he calls "pure agnosticism."' Note this from a writer who, with virtuous and fiery indignation, reiterates the demand for 'scrupulous honesty!' Now by the side of the above 'as he says,' let us put the actual words of Romanes, leaving the reader to the fuller perusal of his *Thoughts on Religion*:

In my youth I published an essay which excited a good deal of interest at the time, and has been long out of print. In that treatise I have since come to see that I was wrong touching what I constituted the basal argument for my negative conclusion. Therefore I now feel it obligatory on me to publish the following result of my maturer thought from the same standpoint of pure reason. Even though I have obtained no further light from the side of intuition, I have from that of intellect.¹

Whilst as to 'agnosticism,' not only did Professor Romanes aver that—

Modern agnosticism is performing this great service to Christian faith: it is silencing all rational scepticism of the *a priori* kind²;

¹ p. 111.

² *Thoughts on Religion*, p. 166.

but the 'pure agnosticism' to which he 'assented' he thus expresses:

Only to a man wholly destitute of spiritual perception can it be that Christianity should fail to appear the greatest exhibition of the beautiful, the sublime, and of all else that appeals to our spiritual nature which has ever been known upon earth.¹

Of all the opponents of Haeckelism, Professor Beale is let off with the least expression of contumely. But the reader is here invited to make what sense he can of the following sentence:

When Professor Beale says (*Vitality*, p. 4) that the more recent discoveries as to the constitution of our sun and the planets, as well as the fixed stars, render it most improbable that life exists in these or other orbs, one can only gasp with astonishment. There is no truth whatever in it; and the mere idea of people living in the stars, at a temperature of several thousand degrees, makes one uncomfortable.²

From the foregoing, then, we learn how to interpret Mr. McCabe's estimate of Professor Haeckel's published words. He is of opinion that 'you will vainly seek their equals in modesty in any

¹ *Thoughts on Religion*, p. 160. The reader will note that, in the quotation from Mr. McCabe, the words 'pure agnosticism' appear in inverted commas after 'what he calls.' The intention evidently is to convey to the ordinary reader the impression that Romanes only came back to a sort of half-belief. It may be well, therefore, to transcribe here the words of the editor of the *Thoughts on Religion*. 'The intellectual attitude towards Christianity expressed in these notes may be described as: (1) "Pure agnosticism" in the region of the scientific "reason," coupled with (2) a vivid recognition of the spiritual necessity of faith, and the legitimacy and value of its intuitions; (3) a perception of the positive strength of the historical and spiritual evidences of Christianity.' In face of the whole quotation, as given above, it would seem impossible to avoid applying to the writer his own words, 'If these things are not untruths, one wonders what is.'

² *Haeckel's Critics Answered*, note, p. 32 (*sic*).

religious riddle-solver in the world.'¹ But when all allowance has been made for fervid temperament and new-found zeal, we are bound to say that he ought to be the last in the world to make mention of modesty. And we are free to add that such a style of championship as his pages evince, rather betokens a weak than a strong cause. At all events, there should be an end for ever to the insinuation that the 'ethics of monism,' herein, are superior to those of faith. When we have dismissed the glamour of authority on Haeckel's part, in regard to realms in which he is no expert, and the assumption of something indistinguishable from infallibility on the part of his advocate, it may be freely owned that neither the Christian nor the anti-Christian side in this great conflict is perfect in method or in spirit. But there are, happily, good grounds for believing that when Professor Haeckel affirms that—

One of the most distinctive features of the expiring century is the increasing vehemence of the opposition between science and Christianity,

there is less truth in such a statement than in Professor Sir Oliver Lodge's 'thesis,' that whilst there is—

Still an outstanding controversy between science and faith, active fighting has been suspended, and bitterness has passed away from the conflict, let us hope, never to return.

If this latter wish is to be fulfilled, there will certainly have to be less of the kind of 'modesty' above exhibited, and more of another kind deserving the name.

¹ *Haeckel's Critics Answered*, p. 11.

PERSONAL NOTE

Inasmuch as the author of *Haeckel's Critics Answered* has singled me out for special alleged reply and particular contumely, a few words of plain rejoinder seem necessary for the truth's sake. I have no claim whatever to be styled 'the chosen ecclesiastical champion' against Haeckel in this country.¹ No one knows better than this writer, that the appearance of a few articles in a newspaper does not involve such a position. Whilst as to the criticism of Haeckel's *Riddle* in my *Miracles of Unbelief*, he himself refers to it as occurring 'in an obscure corner of an obscure book.' Wherein he sufficiently answers himself.

As to the rest, his references may, for all the brief notice they merit, be divided into sneers, epithets, and allegations.

1. It seems a pity that a critic who starts with a 'lesson in modesty' and closes with the pathetic reminder that 'truth is a frail spirit that must be sought with patient and calm investigation,' &c., should so far honour his own principles rather 'in the breach than in the observance.' How is the above ideal illustrated by sneering at me as 'this budding controversialist' (14) when I was publicly teaching the same truths as at present, long before Mr. McCabe was ever heard of? Wherein is the particular 'dignity' of flinging contempt upon an opponent by means of such sneering references as 'this Bachelor of Divinity seems unaware' (12); 'even Mr. Ballard, B.D., thinks' (85); 'he, a bachelor of science, has blurred' (41); 'Mr. Ballard, F.R.M.S., clearly makes a very improper use of his microscope' (13), &c.?

2. As to the estimates implied in his epithets: 'this paltry charge' (12); 'an equally coarse outburst' (14); 'a mere travesty of Haeckel's position' (15); 'too ludicrous to analyse in detail,' 'the foolishness of the whole episode' (25); 'curious and wilful misconstruction' (54), &c., they may be left to the reader's judgement.

3. But the allegations merit a little more attention. The favourite suggestion is 'dust-throwing.' 'This is mere dust-throwing,' 'Mr. Ballard thinks it wise or useful to raise the dust even here' (24, 41), &c. In these cases, what I have written may be left to speak for itself. But it is not true that my reference to Haeckel's work in the *Miracles*, &c., was a 'hastily added chapter, for it was based upon a thorough scrutiny of the English

¹ *Wonders of Life*, p. 366.

edition as translated by Mr. McCabe himself. Nor—as it now stands in the popular edition—should I wish to alter a word of it to-day. It is equally untrue that ‘twelve articles out of the thirteen’ in *The British Weekly* were ‘mainly preliminary comments on Haeckel’s morals.’ The reader who can procure the issues of July 23 and 30, and August 6, 1903, will be best able to judge of the falsity of this insinuation. Nor is there any ground whatever for the following dramatic innuendo: ‘Take down your copy of *The Riddle*—do not contract the slovenly and expensive habit of trusting a controversial writer—and I will give you pages throughout, which Mr. Ballard never does.’ Now, apart from the ‘dignity’ of the insinuation that it might well be my intention to deceive readers by wilful misquotations, it was explained at the time that the omission was only due to rigid limits of space, and would afterwards be supplied. As a matter of fact, although I have not scrutinized Mr. McCabe’s pages with this particular object in view, I have noticed how six times within as many pages he himself gives no references at all to his own quotations (pp. 70–7). But leaving that as comparatively unimportant, it is a serious matter to be definitely charged with wilfully garbling quotations from other writers. My ‘admirers’ who ‘wish to know the worst and see how their apologist garbles his quotations from Haeckel, misrepresents his position, and misstates the attitude of science,’ are referred to p. 40. Thither, therefore, for a moment let us go. Putting the pages side by side, it appears that I have not mentioned the name of Naegeli, and I have said ‘the’ assertion instead of ‘his’ assertion. And this is the total reason for the above dramatic tirade of the champion for ‘dignity’ and ‘scrupulous honesty.’ ‘It would not do, I suppose, to let readers of *The British Weekly* know that Haeckel does not stand alone, so the quotation is manipulated.’ If this is the worst—as it is the only—specimen of ‘manipulation’ that can be alleged, all that it would suggest is that the writer is very hard pressed indeed. For my part, I know that such ‘manipulation’ was no more thought of than it was necessary for the purpose in hand.

But if we must come to ‘manipulations,’ although I have not ransacked Mr. McCabe’s pages specially for such, I may submit one or two to the reader’s judgement. On p. 48 of this brochure we read that ‘*Dr. Croll also admits* of the derivation of species. At present most evolutionists regard the process as purely mechanical and physical, the results of matter, motion, and force

alone.' Now, to quote our critic's own words, 'It would not do, I suppose, to let the reader know that' in *his very next sentence* Dr. Croll says: 'It is one of the chief objects of the present treatise to demonstrate that such is not the case, and that it is absolutely impossible that the process of nature can ever be accounted for without going beyond what is to be found in matter, motion, and force.'

Let us take also the next sentence as it stands on Mr. McCabe's page. 'And Mr. Fiske says: The natural selection of physical variations will go far towards explaining the character of all the plants and all the beasts in the world.' But if, following this writer's advice not to 'contract the slovenly and expensive habit of trusting a controversial writer,' we 'take down' our copy of Fiske's *Through Nature to God*,¹ what do we find? That his actual words are these: 'It must be borne in mind that while the natural selection of physical variations will go far towards explaining the characteristics of all the plants and all the beasts in the world, it remains powerless to account for the existence of man.' If this is not manipulation to suit the purpose of a special pleader, what is? Especially when it is borne in mind that, according to this critic's own avowal, 'the most important thesis of Haeckel's book is the evolution of mind in man.' Surely one is warranted in reminding 'this literary censor morum,' of a New Testament precept which cannot be unfamiliar to him, about casting out 'the beam' from one's own eye before offering to remove 'the mote' from another's. When, finally, it pleases him to inform his readers that 'he, a bachelor of science, has blurred the distinction between actual abiogenesis and archigony,' the assertion is as false as its parallel,² that 'even Mr. Ballard, B.D.,' does not understand what the 'immaculate conception' really means. The latter has been familiar to me for a quarter of a century, and the 'confusion' has to be read into my words before it can be got out. The former will be dealt with in due course, when we come to consider the question of life's origin. Here, therefore, I may gladly dismiss all further references to myself, in this decidedly able but equally misleading polemic.

¹ p. 81.

² *Haeckel's Critics Answered*, p. 85.

II

PHILOSOPHY IN TATTERS

IN his latest volume Professor Haeckel loudly complains that 'the most violent attacks' have been 'directed against my monistic theory of knowledge, or against the method I followed in seeking to solve the riddle of the universe.' 'Critical philosophers of the modern Kantian school' are said to vie with 'orthodox theologians' in 'misrepresentation, sophistry, calumny, denunciation. These heated partisans may continue to attack and calumniate my person as they will: they will not hurt the sacred cause of truth in which I labour.'¹ This certainly sounds meek enough. But apart from the quiet assumption here that none of his opponents cares for 'the sacred cause of truth,' such an attitude no more accords with the matter of his philosophy than—as we have already seen—with his mien towards those who do not accept it. It is indeed not easy to reconcile with the avowal of his English champion: 'If he cares to invade every department of thought in search of anti-theological arguments, and to throw out scores of positive explanations in

¹ *Wonders of Life*, Preface, p. ix.

the teeth of the theologian, he must of course expect battle. It is just what he desires.'¹

Let us, however, lay aside all that tends to 'the heat of battle,' and endeavour with calm frankness to do him justice. His 'method' is confessedly difficult to follow, because he claims to write both as a man of science and a philosopher. He strongly protests against being content with science *per se*:

The man who renounces theory altogether, and seeks to construct a pure science with certain facts alone, must give up the hope of any knowledge of causes, and consequently of the satisfaction of reason's demand for causality.²

Unfortunately, his acknowledged eminence in certain branches of science becomes almost inevitably his ground of authority to speak for all other branches, and the reason for attaching especial weight to his deliverances as a philosopher. But Sir Oliver Lodge says truly that, 'as a philosopher, Professor Haeckel can claim no particular weight for his opinions more than those of any other philosopher.'³ And seeing that Haeckel himself has defined for us who this other philosopher is—'In my opinion, every educated and thoughtful man who strives to form a definite view of life is a philosopher'—we are free to render all due respect to eminence in

¹ *Haeckel's Criticism Answered*, p. 125. I may be forgiven for pointing out how these words of Mr. McCabe corroborate my estimate in the scorned *British Weekly* articles: 'Haeckel's much-belauded volume is really neither a work on science nor a philosophical treatise, but a virulent tirade against Christianity in the name of science and under the guise of philosophy' (August 6, 1903).

² *Riddle*, p. 106; so too *Wonders*, p. 5.

³ *Hibbert Journal*, January, 1905, p. 333. See p. 11 above.

biology without being at all bound to pay special heed to, let alone accept, the philosophy which he associates with it.

'Pure philosophy,' he tells us,¹ 'aims at a knowledge of the truth by means of pure reason, as I explained in the first chapter.' Turning to this we find that 'the only paths recognized as profitable' are 'those of experience and thought—or empirical knowledge and speculation.' 'Two other much-frequented paths'—emotion and revelation—are to be rejected as false, because 'both of these are in opposition to reason.' Now we may overlook for the moment the quiet though enormous *petitio principii* of the last clause, and consider fairly the two paths alleged to be profitable. The first of these, 'empirical knowledge,' need not detain us long. Beyond the reminder that Weismann's theory of heredity, however severely mauled by Spencer and criticized by Romanes, is by no means demolished or defunct, be the consequences to Haeckel's monism what they may, we need enter upon no discussion of his biological allegations. Such differences of statement as experts alone are competent to make, do not here concern us. The question is not as to the facts, but as to the worth of the facts. Thus we come to what he himself terms 'speculation.' Now if this were confined to the synonym which Sir Oliver Lodge suggests,² viz. 'brilliant guess-work,' and were on all occasions put forth, as such, with the genuine modesty befitting all suggestions

¹ *Wonders*, p. 472.

² *Hilbert Journal*, January, 1905, p. 320.

which a 'thoughtful and educated man' may desire to make, there would be little or no ground of complaint from any quarter. 'If this be understood,' as Sir Oliver says, 'his book can be left to its proper purpose of doing good rather than harm.' Unfortunately, however, this is precisely what cannot possibly be understood, unless the works in question are all written over again, and in very different style to what we find therein at present.

Before we can pass the statement that philosophy means fact plus speculation, we must know, and that definitely, what this latter term connotes. If it be indeed only 'brilliant guess-work,' then, however interesting, no weight attaches to it. When, on the contrary, the guess-work is put forth as sufficiently authoritative not merely to constitute a 'working hypothesis,' but a definite 'monistic system,' which is to sweep away every other philosophy and become the sole condition of human 'progress,' the case assumes a very different aspect. Surely there are plain laws of thought and rules for statement which constitute limits even for 'guess-work,' and without or beyond which it is alike useless and mischievous. 'It can only do harm by misleading,' says the eminent physicist just quoted. Yes, but unfortunately it is precisely this harm which it is doing, and that to no small extent. Certainly, if 'speculation' includes definite and reiterated dogmatism, assumptions quite unwarranted and unfair, statements contrary to fact, plain misrepresentations, false logic, patent self-contradictions, it is but

philosophy in tatters, a robe too greatly rent to cover the naked immodesty of any 'system' which seeks to destroy all others by merely asserting itself.¹ The 'philosophy' which cannot be stated, let alone established, without all these, is no philosophy at all. But we shall see that they form the very framework of this 'monistic system.' So markedly, indeed, that to take them away can only be compared to taking away the bony system out of the human body. The residue cannot support its own weight.² How really this is the case we must now proceed to show, before replying on other grounds to the main points of Haeckel's 'system.'

I. In regard to dogmatism, it is highly essential to understand what is thereby intended. Certainly not merely an emphatic statement. Every sincere teacher will sometimes require this, and we are more than willing to concede all the sincerity which is claimed by Professor Haeckel in his preface,³ of course on the understanding that it be also accorded

The English of the following sentence is peculiar, but the last clause well supports the contention above: 'The modern treatment of the science [cytology], as we find it in numbers of recent works, even in some of the most distinguished manuals, and which we must resent on account of its dogmatism, culminates in the following theses. — *Wonders*, p. 197.

¹ The statement on p. 9 of *Haeckel's Critics Answered* may therefore stand as it is: 'Mr. Ballard epitomizes the charge very neatly in *The British Weekly*. The book, he says, teems with exhibitions of bitter prejudice, arrant dogmatism, unwarranted assumption, uncalled-for insult, logical failure, and self-contradictions.' The writer is perfectly justified in considering this 'a grave charge.' Whether the British public calls for many or few editions of Haeckel's work is quite irrelevant. The question is, 'Are these things so?'

² *Ibid.*, p. xiv.

to ourselves. Genuine dogmatism is quite distinct from this. Mr. McCabe would make short work of it.¹ But whilst we admire his chivalry, we decline to be browbeaten into accepting his dictum. It were, indeed, far too sorry a compliment to pay to all literature, to estimate it thus. The reader can in a moment judge for himself. By dogmatism we here understand the affirmation of an opinion, which is no more than an opinion, in such a manner as to leave no room either for sincerity or intelligence in those who differ from it. To give all the instances of this which abound in the works before us, would be to quote from nearly every page. We will merely take a few types relative to the most important themes.

It seems but a light matter to this philosopher to affirm that 'the monism of the cosmos which we establish, shatters the three central dogmas of the dualistic philosophy—the personality of God, the immortality of the soul, and the freedom of the will.'² To appreciate his further 'ways of expression,' we must take each of these, and the two other associated themes, separately.

1. Thus, in regard to God, we are informed³ that 'with Christian mythology, and the special form of theistic belief associated with it, the case is different. In so far as that belief involves the

¹ 'The whole matter is too absurd to prolong. Haeckel's "dogmatism" are the ordinary ways of expression in adult literature.'—*Haeckel's Critics Answered*, p. 12.

² *Riddle*, p. 135.

³ *Confession of Faith*, p. 69

notion of a personal God, it has been rendered quite untenable by the recent advances of monistic science.' Having in the same work declared that 'homotheism' represents God as a 'gaseous vertebrate,'¹ he is so pleased with the thought, that it is thrice repeated in *The Riddle*,² as though it expressed the conviction of a Christian believer. Further, not only have we³ 'in the dogma of the Trinity what every emancipated thinker finds on impartial reflection—an absurd legend, which is neither reconcilable with the first principles of reason, nor of any value whatever for our religious advancement,' but, speaking generally,⁴ 'the notion of this personal God as an intelligent immaterial being, creating the material world out of nothing, is wholly irrational and meaningless—a childish and scientifically worthless idea.' Moreover, since the time of Kant and Laplace, we are assured,⁵ 'there has been no question of the conscious action of a Creator in any part of astronomy.' So that⁶ 'as regards geology, astronomy, mathematics, chemistry, and physics, there is no question in them to-day of the wisdom and power of the Creator.' Indeed, so far as relates to 'belief in a personal God—no evidence of His existence is to be found. All that revelation is supposed to teach us on the matter belongs to the region of fiction. The whole field of theology, especially dogmatic theology, and the

¹ *Confession of Faith*, p. 79.

² *Riddle*, pp. 5, 93, 102.

³ p. 101.

⁴ *Wonders*, p. 62.

⁵ p. 476.

⁶ p. 477.

whole of the Church teaching based upon it, are based on dualistic metaphysics and superstitious traditions. It is no longer a serious subject of scientific treatment.'¹ 'Finally, modern cosmology and cosmogony have found no trace whatever of the existence and activity of a personal and extra-mundane God.'² In a word, 'this untenable myth was refuted long ago by scientific cosmogony, astronomy, and geology.'³ These things being so, what room is left for a spark of intelligence and honesty on the part of any Christian theist whatever?

2. Then as to the 'human soul.' It is, we are told, 'only the sum of our feeling, willing, and thinking—the sum of those physiological functions whose elementary organs are constituted by the microscopic ganglion-cells of our brain.'⁴ As an all-comprehending statement—after the acknowledgement that 'the great majority of the professional psychologists, and of educated people generally, adhere still to the antiquated dogma, with its religious foundation that man's soul is immortal and an independent immaterial entity'⁵—we are told that 'modern comparative and genetic psychology, the anatomy and physiology of the brain, have, in the course of the last forty years, established the monistic view that psychology is a special branch of physiology, and that therefore all its parts and their application belong to this

¹ *Wonders*, p. 488.

² *Riddle*, p. 98.

³ *Wonders*, p. 478.

⁴ p. 454.

⁵ *Confession*, p. 40.

section of biology. The soul of man is a physiological function of the phronema.'

3. As regards the thought of immortality, it is nothing but an 'irrational dogma' and 'a deplorable anachronism.'¹ Or more plainly, here 'we come to that highest point of superstition'² in regard to which 'we have to say the same of athanatism as of theism: both are creations of poetic mysticism, and of transcendental faith, not of rational science.'³ So that 'if we take a comprehensive glance at all that modern anthropology, psychology, and cosmology teach with regard to athanatism, we are forced to this definite conclusion: the belief in the immortality of the human soul is a dogma which is in hopeless contradiction with the most solid empirical truths of modern science.'⁴ From all of which, only one conclusion is possible.

4. Concerning free-will, as an item of Christian philosophy, the case becomes yet more emphatic. In the very first chapter of *The Riddle*⁵ the matter is 'settled by our conception of substance—the freedom of the will is not an object for critical, scientific inquiry at all, for it is pure dogma based on an illusion and has no real existence.' After this, one would have expected no further allusion to it. But it seems that the dead requires to be slain over again, and the foregoing dictum is repeated in the following terms:

The great struggle between the determinist and the indeterminist,

¹ *Confession*, p. 54.

² *Riddle*, p. 72.

³ p. 6.

⁴ *Riddle*, p. 67.

⁵ p. 75.

between the opponent and the sustainer of the freedom of the will, has ended to-day, after more than two thousand years, completely in favour of the determinist. We now know that each act of the will is as fatally determined by the organization of the individual and as dependent upon the momentary condition of his environment as every other psychic activity.¹

In the latest volume a still further stage of settlement is reached by the avowal that it is immaterial whether or not 'one believes in the freedom of the will, according to the antiquated creed of indeterminism.'²

5. So, finally, as to the Christian doctrine of Providence. 'The premature death of the brilliant young physicist, Heinrich Hertz,' we are assured, 'is one of those brutal facts of history which are enough of themselves to destroy the untenable myth of a wise Providence and an all-loving Father in heaven.'³ Thus it is not surprising to find later on that 'it is just as impossible for the impartial and critical observer to detect a wise Providence in the fate of individual human beings, as a moral order in the history of peoples. Belief in a loving Father is absolutely impossible. That is at once perceived on laying aside the coloured spectacles of faith, and reflecting rationally on the subject.'⁴ Equally comprehensive is the reiteration in the later volume.

We are bound to point out that reason cannot detect the shadow of a proof of the existence and action of this conscious Providence or loving Father in heaven.⁵ I have been unable to discover throughout the whole world a single trace of a moral order or a beneficent Providence.⁶

¹ *Riddle*, p. 47.

² *Riddle*, p. 80.

³ *Wonders*, p. 111.

⁴ p. 297.

⁵ p. 97.

⁶ p. 122.

On our part, weighing all these and many other similar utterances, we too 'are bound to point out' that no other conclusion is possible therefrom, than that all who do not share his 'monistic views,' are either irremediable fools or downright hypocrites. But such a result can only be enforced by a dogmatism which is as far from true philosophy, as a Pope of Rome is from a 'rationalist.'

II. If, however, by way of throwing a sop to Cerberus, we should concede that all the foregoing is simply 'the ordinary way of expression in adult literature,' there are other rents in this pseudo-philosophic robe which cry aloud for repair. It is a strong saying, confessedly, that 'the book teems with unwarranted assumptions.' But is it true? This, though only by specimen, few instances for many, we must now proceed to answer.

If we take the three volumes in chronological order, a fairly good start is made by the sweeping assumption (which is none the less dogmatic in that it calmly begs the whole question under discussion) that 'the conception of a personal God, creator and ruler of the world, does not give the slightest help towards a truly rational view of the world.'¹ And the main reason why any 'rational' man does not need 'the God hypothesis' is that 'we can with more or less probability ascribe a number of eternal and inalienable fundamental attributes to the original mass-atoms—the ultimate discrete particles of inert "ponderable matter." They are probably everywhere

¹ *Confession*, p. 69.

in space, of like magnitude and constitution.'¹ Here, it is interesting to note how the final foundation of the 'faith of a man of science' is a 'probably.'²

But when *The Confession* expands itself into *The Riddle*, we find ourselves in a perfect forest of similar assumings of just what is necessary for the Monistic theory. 'Physical science,' we are informed, with the easiest assurance, at the outset, 'is so much more important than all other sciences, and, properly understood, really embraces all the so-called moral sciences.'³ Hence naturally 'the monistic philosophy is ultimately confronted with but one simple and comprehensive enigma—the problem of substance.' The sweet simplicity of this is easily explained. 'In my opinion the three transcendental problems—(1) the nature of matter and force; (2) the origin of motion; (3) the origin of life—are settled by our conception of substance.' Thus we are enabled to perceive how useful a 'conception' may be. It first dismisses all other 'problems' than itself, and then settles itself as infallible, by conceiving itself. Truly a philosophic conception!

With such a 'method' it is easy enough to proceed. Any child can thus apprehend (1) that 'the universe, or the cosmos, is eternal, infinite, and illimitable';⁴

¹ *Confession*, p. 26.

² 'Handelt es sich nach Haeckel um heuristische Hypothesen, welche die Richtung des Weges angeben sollen, auf dem die Forschung "wahrscheinlich" am besten vorzudringen hat.'—Schoeler, p. 65.

³ *Riddle*, p. 4.

⁴ p. 5. As showing how perfectly simple and self-evident is this assumption on the part of the apostle of Monism, it may be interesting to transcribe just one paragraph from a most recent authority who,

(2) 'its substance, with its two attributes, matter and energy, fills infinite space and is in eternal motion.' Whence of course it follows that 'this infinite and eternal machine of the universe, sustains itself in eternal and uninterrupted movement.'¹ The translator, however, has added to the complexity of this simplicity by informing the English public that 'the duration of the world is equally infinite and unbounded, it has no beginning and no end, it is eternity.' From which the average reader, knowing nothing of the significance of the German 'Weltzeit,' but knowing well that in our tongue 'the universe' is the whole of which 'the world' is only the tiny planetary part, will be faced with the further assumption of the infinitude of this our comparatively little globe.

But the truth is that assumptions such as these, every one of them equally unwarranted, so constitute the very pith and marrow of these pages that the problem where to begin to take examples,

being farthest removed from the hated 'orthodoxy,' will be so much the more acceptable to Haeckelian monists. In Mr. Carl Snyder's *New Conceptions in Science*, p. 97, we read: 'The first principle with investigators of nature, said von Helmholtz, must be that nature is intelligible for us: otherwise it would be folly to try to study it. If the cosmos of which we are a part is infinite, it is not intelligible, for the infinite is beyond our understanding. If it is infinite in extent, infinite in bulk, it would contain infinite forces, attracting over infinite spaces, and moving objects with infinite speeds. If its parts are infinitely divisible, the combination of these parts would be infinite in variety and action. There is simply nothing in natural phenomena to suggest such conclusions.' I would commend this whole chapter upon 'The Finite Universe,' to those who are carried away by the superstition that all modern scientists think alike in 'fundamental' matters.

¹ *Riddle*, p. 87.

is a trifle as compared with that where to leave off. Again, therefore, we must be content with one or two specimens.

The importance of mechanics to Monism needs no supporting quotation. But the extent to which the all-sufficiency of material mechanism is assumed merits illustration. We are told that—

Since Darwin it has become possible for us to trace the splendid variety of orderly tendencies of the organic world to mechanical natural causes, just as we formerly could in the inorganic world alone. Mechanicism (in the Kantian sense) alone can give us a true explanation of natural phenomena, for it traces them to their real efficient causes, to blind and unconscious agencies, which are determined in their action only by the material constitution of the bodies we are investigating.¹

Hence, to mention only one case, 'we can confidently speak of heredity as a physiological function of the organism, which is directly connected with the faculty of generation, and we must reduce it, like all other vital phenomena, to exclusively physical and chemical processes, to the *mechanics of the protoplasm*.'²

The question of life, and all that it involves, we

¹ *Riddle*, p. 92.

² p. 50. The italics are the author's. But as Mr. McCabe, when it suits his purpose, can quote Professor William James, the famous psychologist, I may here present him and his readers with another quotation, whose bearing upon the above, I think, most men of sense will see. Says Professor James (*Varieties of Religious Experience*, p. 519): 'I can of course put myself into the sectarian scientist's attitude, and imagine vividly that the world of scientific sensations, and of laws, and objects, may be all. But whenever I do this, I hear that inward monitor of which W. K. Clifford once wrote whispering the word 'bosh.' Humbug is humbug, even though it bear the scientific name, and the total expression of human experience, as I view it objectively, invincibly urges me beyond the narrow "scientific" bounds.'

will consider presently. Now we need only note with what simplicity it is asserted that 'the whole marvellous panorama of life that spreads over the surface of our globe is, in the last analysis, transformed sunlight.'¹ So, in regard to the 'chromacea,' to which 'extreme importance is attached' as the earliest and simplest of all organisms,² 'the sole essential vital function is self-maintenance, and this purely chemical process is on a level with the catalysis of inorganic compounds.' Thus also 'all the other vital phenomena which are to be seen in some of the chromacea can also be explained by physical or chemical causes, on mechanical principles. Not a single fact compels us to assume a vital principle.' 'Thus the miracle of life here consists merely of the chemical process of plasmodomism by photosynthesis. The sunlight enables the blue-green phytoplasm to form new plasm of the same kind out of inorganic compounds.'³ In all which cases, be it observed, (1) the 'plasm' is absolutely necessary; (2) plasm is by confession living; (3) *therefore*, plasmodomism is merely a chemical process! If this is not assumption pure and simple, what is?⁴

¹ *Riddle*, p. 75.

² *Wonders*, pp. 203, 204.

³ p. 225.

⁴ The only worthy parallel is to be found in the pages of *Haeckel's Critics Answered*, where (p. 113) in trying to reply to Sir Oliver Lodge, the writer says: 'To assume that the energies of dead and living are the same, but that which differs is not energy, looks like a begging of the question. Indeed, it is impossible to conceive of life otherwise than as energy. The death of the animal is like the death of the motor-car.' Perhaps at some future time the author will tell us how a 'motor-car' can 'die.'

Similarly, we read that 'the whole vital activity of the simplest monera, especially of the chromacea, is confined to their metabolism, and is therefore a purely chemical process, that may be compared to the catalysis of inorganic compounds'¹; where manifestly the very thing to be proved is first asserted, and then the inference drawn that comparison is absolutely the same as identification.

When afterwards reference is made to the 'radiolaria among the protozoa,' as surpassing in complication all the other groups of the protists, we are informed that 'the most remarkable and most important fact about them is that the artistic builders of these wonderful and often very ingenious and intricate flinty structures are merely the plastidules or micella, the molecular and microscopically invisible constituents of the soft viscous plasm.'² Here 'merely' stands for the 'familiar physical forces—mechanical efficient forces—which fully suffice to explain the origin and transformation of these fundamental types, as well as for *all other* biological and inorganic processes.'³ On another page the case is stated thus:

A large part of the nutritive processes are explained without further trouble, by the known physical and chemical properties of inorganic bodies: for another part of them we have not yet succeeded in doing this. Nevertheless, all impartial physiologists now agree that it is possible in principle, and that we have no reason to introduce a special vital principle.⁴

Here the modest assumption is twofold: (1) that Monism may take for granted whatever it wants,

¹ *Wonders*, p. 215.

² p. 188.

³ p. 187.

⁴ p. 217.

whenever it wants anything; and (2) that all 'impartial physiologists' will do so too. Whence it follows that all who do not do so are not 'impartial.' Such a one, for instance, as Dr. Carpenter, who possibly was as capable a biologist as Professor Haeckel. He comes—'after an inquiry on which I had been engaged for forty years into the organization of the foraminifera, a group of marine animals of the simplest protoplasmic nature, which yet form for themselves shelly coverings of singular regularity and complexity of structure'—to exactly the opposite conclusion,¹ viz. that 'we have here the obvious indication of a pre-arranged plan.'

Are we, then, to conclude that all energies previously deemed vital, are now to be reduced to chemical? Or are the latter to take on the characters of the former? The convenience of Monism is best stated thus:

In chemical analysis, the word 'reaction' is used to denote that action of one body on another which serves to reveal its nature. Even here we must assume that the two bodies *feel* their different characters; otherwise they could not act on each other. Hence, every chemist speaks of a more or less 'sensitive' reaction. But this process is not different in principle from the reaction of the living organism to outer stimuli, whatever be their chemical or physical nature. And there is no more essential difference in psychological reaction.²

¹ The reader will do well, if he can procure a copy of *The Modern Review* for October, 1884, to study the whole article entitled 'The Argument from Design in the Organic World.' He will then be able to judge for himself of the kind of scientific scrutiny which, in such sentences as that above quoted, Professor Haeckel 'modestly' treats with contempt.

² *Wonders*, p. 304.

After this we are scarcely surprised to be told unequivocally that (307, 308) 'the two *ideas* of sensation and feeling are often confused—but are both *purely physiological*.'¹ When, however, the philosopher goes on to expound the difference between the two, it is assuredly a startling fragment of the Monistic system to be informed that '*sensation perceives* the different qualities of the stimuli, and *feeling perceives* only the quantity.' Before accepting this modest assumption, we shall first have to learn how 'sensation' can perceive anything. Such a statement, however, is quite on a par with the preceding assumption of *The Riddle*, that 'the four great thought-centres in the grey bed of the brain are the real organs of mental life, and are those highest instruments of psychic activity that *produce* thought and consciousness.'² Here comment is surely superfluous.

III. Leaving now these specimens of assumption, it is incumbent upon us to point out similar examples of the assertions contrary to fact, which enter largely into the 'philosophy' of this 'system.' The famous seventeenth chapter of *The Riddle*, which is in the main but a tissue of such unjustifiable assertions, will come under consideration later on. It will suffice here just to mention the statement, that 'some of the first teachers of the Christian Churches—such as St. Augustine and Calvin—rejected the freedom of the will as decisively as the famous leaders of pure materialism'³; when every one knows that neither St. Augustine (A.D. 354–430) nor

¹ *Wonders*, pp. 307, 308.

² *Riddle*, p. 65.

³ p. 46.

Calvin (A.D. 1509-64) were amongst the 'first teachers' of Christianity; and that—the whole New Testament being witness—the real first teachers everywhere assumed and emphasized the freedom of the will, and made it, as their Master did,¹ the ground of their appeals. Moreover, both these later teachers rejected the modern determinism—with its consequence of moral irresponsibility—which this writer in the next paragraph says is now everywhere triumphant.² They would have rejected with equal intellectual and moral scorn the dictum of modern popularized 'determinism,' that 'if God is responsible for man's existence, God is responsible for all man's acts.'³

It is no less misleading to affirm that 'Christian theologians deny the freedom of the will, because it is irreconcilable with their belief in the omnipotence

¹ John v. 40, x. 18; Matt. xxiii. 37, &c.

² Thus Professor Fisher well says (*History of the Christian Church*, p. 321), 'According to Augustine the will of man is free to sin, but utterly unable to become holy.' Whilst Calvin, 'notwithstanding the fact that he emphasized man's inability to do right, affirmed in the strongest terms his moral and responsible nature.' Now compare the statements of those who embody Haeckel's assumption that 'the great struggle has ended completely in favour of the determinist.' Professor Hamon (*Illusion of Free Will*, p. 134) writes: 'The rock which in breaking away crushes whatever is on its path is not considered responsible. Nor is the tiger responsible who kills a man. We ought no more to consider the man who acts responsible, for he is as much an automaton as the tiger or the rock. General irresponsibility, such is scientific truth.' And the editor of *The Clarion*, in his *God and My Neighbour*, popularly expounds this as follows (p. 137): 'You may ask me with surprise, Do you really mean that no man is, under any circumstances, to be blamed for anything he may say or do? And I shall answer you that I do seriously mean that no man can, under any circumstances, be justly blamed for anything he may say or do.'

³ *God and My Neighbour*, pp. 131, 135, 137, 145.

of God and in predestination.'¹ For the vast majority of theologians to-day do nothing of the kind. If Professor Haeckel's writings upon biology exhibited allegations as loose and false as these, his acknowledged 'eminence' in that department would rest upon a quicksand. But of similar character are the further assertions that Christianity 'assents to suicide,'² because Christ said—according to Haeckel—'If thine eye scandalize thee (*sic*) cast it from thee.' Or, again, the unqualified assertion that 'a considerable part of Christianity has come directly from Indian Buddhism'; when there is no proof whatever forthcoming of anything of the sort, whilst there is a great deal of proof to the contrary.³ It is, however, not more unwarranted than many other affirmations. In the opening chapter of *The Riddle*⁴ the reader is informed that all (for no exception is hinted at) 'physicists and chemists, doctors and philosophers, who have made a thorough study of nature refuse a hearing to liberal Protestant preachers.' The falsity of the allegation is only equalled by its impertinence. But it is reiterated in the later volume⁵: 'There are few experienced and thoughtful physicians who

¹ *Riddle*, p. 46.

² *Wonders*, p. 116.

³ Professor Rhys Davids may be permitted to know as much about Buddhism as Professor Haeckel of phylogeny. But, in regard to this very 'borrowing' of Christianity from Buddhism, he says (*Hibbert Lectures*, 1881, p. 151): 'I will only say that I have carefully considered it throughout with a mind quite open to conviction, and that I can find no evidence whatever of any actual and direct communication of any of these ideas from the East to the West. The slightest comparison is sufficient to show that they rested throughout on a basis of doctrine fundamentally opposed.'

⁴ *Riddle*, p. 4.

⁵ *Wonders*, p. 121.

retain the conventional belief in the immortality of the soul and God.' No more is there of either truth or 'modesty' in the avowal that 'eternal life is not a comfort but a fearful menace to the best of men. Only want of clear judgement and consecutive thought can dispute it.'¹ Equally false is the sneering and sweeping allegation that 'the theistic church-goer who thoughtlessly follows the empty ceremonies of Catholic worship, is at once assumed to be a good citizen, even if there be no meaning whatever in his faith and his morality be deplorable.'² Those of us who are farthest from Romanism, will be most ready to avow in common honesty that there is not a city in the land where this is true. It is well accompanied by the 'modest' assurance that 'this error will only be destroyed when the prevalent superstition gives place to rational knowledge'—that is, Monism.

So too in regard to the belief of Christians in Providence. No falser assertion can be made than that 'the modern civilized man' accepts it when it brings him what he wants, but 'when on the other hand a misfortune is met with, or an ardent wish is not fulfilled, Providence is forgotten.'³ Every one acquainted with Christian feeling knows that no sentiment whatever is more universal than that which may be summed up in the oft-quoted words, 'Though He slay me, yet will I trust in Him.'⁴ Nor

¹ *Riddle*, p. 74.

² p. 103.

³ p. 97.

⁴ Although, as taken from Job, they are really misquoted, seeing that neither the true translation nor the context warrants such rendering there. But this does not affect the sincerity of the faith which they are used to express.

is there any more truth in the affirmation, 'All these dualistic and teleological efforts have the same fault: they overlook or fail to appreciate properly the immense influence of the environment on the shaping and modification of organisms.'¹ For students of nature who differ from Haeckel, are not either necessarily or actually blind to facts any more than he is himself. Proofs of this would be so abundant as to be superfluous. They make the statement just given a direct contravention of fact, rather than an expression of opinion. It is, perhaps, unnecessary to multiply such examples, although it would be only too easy. The sweeping affirmation that 'where the alleged marvels of spiritism have been thoroughly investigated they have been traced to a more or less clever deception,'² will not bear scientific examination. It is simply untrue, as every member of the Psychical Research Society knows.³ It is easy enough, three times in as many following sentences, to sneer at the superstition of all who

¹ *Wonders*, p. 381.

² *Riddle*, p. 108.

³ Those who have studied *Human Personality*, by the late F. W. H. Myers, will know whether the flippant accusation of 'excess of imagination and defect of critical faculty,' made by Haeckel, applies to these two volumes. The author's words, if scientific investigation counts for anything, have quite as real a claim to respectful hearing as anything that any Professor of biology has ever written. 'As a matter of fact—or if you prefer the phrase, in my own personal opinion—our research has led us to results of a quite different type. They have not been negative only, but largely positive. We have shown that amid much deception and self-deception, fraud and illusion, veritable manifestations do reach us from beyond the grave.'

investigate 'spiritism,' but such an assumption of papal infallibility is no more conclusive than it is scientific. Here, indeed, if anywhere, is good room for the familiar quotation—

There are more things in heaven and earth, Horatio,
Than are dreamt of in our philosophy.

Last, though scarcely least, the following sentence must be met with flat denial: 'Let us first emphatically protest that it is a question for us of the necessary defence of science and reason against the vigorous attacks of the Christian Church and its vast army, not of an unprovoked attack of science on religion.'¹ The whole series of this writer's own works proves the contrary; and when added to the strenuous efforts made during the last few years by his friends in this country, no further contradiction can surely be necessary.²

IV. The misrepresentations with which these pages abound, are perhaps difficult to distinguish from assumptions and false statements; but as all alike are inconsistent with a true philosophy, the distinction need not be closely pressed. Yet there

¹ *Riddle*, p. 110.

² It is his own boast, in the preface to *The Wonders of Life*, that, 'within a few months of the issue of *The Riddle*, 10,000 copies were sold. Moreover, the publisher having been solicited to issue a popular edition, more than 100,000 copies were sold within a year.' To which the eager translator appends a note, that 'the English edition met with almost equal success. Nearly 100,000 copies of the cheap edition have already been sold.' Yet what is this whole enterprise, and all the accompanying issues of the R.P.A., but an attack as unprovoked as vigorous upon the Christian faith?

can be no manner of doubt that, in matters involving such grave issues, the 'scrupulous honesty' which Haeckel's translator desiderates, ought to be always followed to the very utmost. It is the absence of this 'scrupulous' care which is intended when the works before us are accused of dishonesty. No Christian advocate has refused to credit Haeckel with the sincerity he claims. But such a concession is perfectly compatible with the affirmation that numbers of his printed statements are not honest—that is, scrupulously accurate representations of known facts. Let the reader now judge for himself.

In *The Confession of Faith*,¹ we are assured that 'the monistic idea of God, which alone is compatible with our present knowledge of nature, recognizes the divine spirit in all things. It can never recognize in God a "personal being," or, in other words, an individual of limited extension in space or even of human form.' Now, apart from the modesty of the assumption in the opening clause, the use of the term 'divine' is wholly misleading. For, if 'God is the infinite sum of all natural forces, the sum of all atomic forces and all other vibrations,' and nothing more, there is no divine, for sheer pantheism is simply no-theism. But to assume that a 'personal being' must be 'an individual of limited extension in space,' is an utter misrepresentation of the philosophical or psychological necessity of the case. And to insinuate, as this does, that the Christian conception of God involves such a fallacy, in face

¹ p. 78.

of the Bible and of all Christian teaching, is about as gross a misrepresentation as language is capable of conveying—unless it be surpassed by the assertion¹ that the Christian representation of God is so anthropomorphic as to 'degrade this loftiest cosmic idea to that of a gaseous vertebrate.'²

Christian theism is further grossly misrepresented as involving³ not only that 'God is distinct from and opposed to the world as its creator, sustainer, and ruler,' which may admit of a true interpretation, but also that 'He is always conceived in a more or less human form, as an organism which thinks and acts like a man, only on a much higher scale.' How utterly this is contradicted by the Hebrew and Christian Scriptures, every reader knows. The inevitable employment of anthropomorphic figures of speech, is no justification whatever for such a travesty. Such a phrase as 'the anthropistic worship of Christians and of other monotheists who conceive their God in human form,'⁴ is thus utterly without warrant. At these misrepresentations Christians have far more right to indignation

¹ *Riddle*, pp. 5, 93, 102; *Confession*, p. 79.

² One might well ask in passing what essential element of personality there is which demands limitation for its realization. 'Personality is in short a matter of degree. Do you say that all this makes God finite? God is certainly limited by all other beings in the Universe, that is to say, by other selves, in so far as He is not those selves. He is not limited by anything which does not ultimately proceed from His own nature, or will or Power. The truth of the world is then neither Monism, in the pantheizing sense of the word, nor Pluralism: the world is neither a single Being, nor many co-ordinate and independent Beings, but a One Mind who gives rise to many.'—Dr. Basbball, in *Personal Idealism*, pp. 374, 390.

³ *Riddle*, p. 98.

⁴ p. 100.

than when Haeckel himself so warmly repudiates the ascription of materialism to his monism.

Even more pitiful—truly one ought to say contemptible—is the would-be irony concerning the soul of man. 'If, then, the substance of the soul were really gaseous, it should be possible to liquefy it by the application of high pressure at a low temperature. We could then catch the soul as it is breathed at the moment of death, condense it and exhibit it in a bottle. By a further lowering of temperature it might be possible to produce soul snow. The experiment has not yet succeeded.'¹ No. But one may prophesy, without risk, that it will succeed long before such stuff as this produces a 'philosophic' solution of the riddles of the universe.

There is really no more 'scrupulous honesty' in the hackneyed allegation that 'the whole of organic nature on our planet exists only by a relentless war of all against all,' so that 'the unceasing and terrible war of existence which reigns throughout the whole of the living world' has, 'among educated people who think,' banished for ever 'the beautiful dream of God's goodness and wisdom in nature.'² It is a double misrepresentation, seeing that it not only exaggerates what may be called the dark side of nature, but utterly ignores the bright side; as if it were not alike the duty and the distinction of all

¹ *Riddle*, p. 71.

² As this attitude is a favourite one with 'rationalists,' and has been so plausibly popularized of late in *God and My Neighbour*, I have faced it fully in *Clarion Fallacies*, pp. 84-95, to which I must here be content to refer.

real science and philosophy to base their conclusions upon a fair and full induction.

Other misrepresentations, no less glaring, will appear in later chapters. To pillory them all would require a volume. But it would seem as if mention ought to be made here of the repeated references to such well-known characters as Laplace, Darwin, and Goethe, who are represented, without any hesitation or mitigation, as being entirely of Haeckel's opinion in all matters under discussion. The old story of the reply of Laplace to Napoleon I, that he had no need of the 'God hypothesis,' is of course retailed once more,¹ and is capped by the assertion 'this fearless monistic thinker was a consistent atheist.'² But neither these epithets nor the implication from the famous reply, are fair representations. He certainly was no 'monist' in the sense of *The Riddle*, nor did his quoted words necessarily imply that he was a thorough-going atheist.

Nor is there, again, any more truth in the assertion that 'Charles Darwin, as the Newton of the organic world, achieved the great task that Kant had deemed impracticable.'³ The very sentence is indeed a self-contradiction, for assuredly Newton did not 'explain the origin of a single blade of grass,' let alone a universe, 'by natural laws which are uncontrolled by design.' Nor did Darwin ever commit himself to such an absurdity. His own expression is: 'I am inclined to look at everything as resulting from designed laws, with the details, whether good or

¹ *Riddle*, p. 92.

² *Wonders of Life*, p. 452.

³ *Riddle*, p. 266.

bad, left to the working out of what we may call chance. Not that this notion at all satisfies me.¹ And later we find that, in reply to Dr. Asa Gray's suggestion that he had brought back teleology to science, he says, 'What you say about teleology pleases me especially.'² Assuredly he is no Haeckelian monist when he says: 'I am conscious that I am in a hopeless muddle. I cannot think that the world as we see it is the result of chance, and yet I cannot look at each separate thing as the result of design.'³ This 'hopeless muddle' is confessedly different from his earlier statements. His closing words in *The Origin of Species* are well known:

There is grandeur in this view of life with its several powers having been originally breathed by the Creator into a few forms or into one. To my mind it accords better with what we know of the laws impressed on matter by the Creator that the production and extinction of the past and present inhabitants of the world should have been due to secondary causes.⁴

And twenty years after he wrote, 'In my most extreme fluctuations I have never been an atheist, in the sense of denying the existence of God.'⁵ But if it should be thought that the change from theism to something like agnosticism, in any degree supports Haeckel's views, we have only to apply to Darwin the same estimate as the author of *The Riddle* does to Kant. Then it will appear that the younger theistic Darwin was sane and wise, but that senile decay explains to us his apparent fall away to Monism in later years.

¹ *Life and Letters*, ii. p. 312.

⁴ p. 429.

² iii. p. 189.

⁵ *Life and Letters*, iii. 304.

³ ii. 353.

Goethe, again, is continually represented as the Monistic philosopher of Germany. Yet it would appear that the author was somewhat uneasy in his references; else why add¹ that 'it is wrong to conclude from isolated quotations from Goethe that he occasionally betrayed the dualism of Schiller in his opinions. Some of the remarks in this connexion that Eckermann has left us from his conversations with Goethe must be taken very carefully,' as being 'quite inconsistent with his character, and more or less perverted.' But is there any real ground for this sneer at 'the mediocre Eckermann'? None whatever, beyond the fact that he testifies to many sayings of Goethe which flatly contradict Haeckel's representation of him as 'renegade non-Christian' and a 'great heathen whose creed was pure monism . . .'²

V. Let us, however, leave this section also incomplete, to make mention of another matter. 'Pure philosophy,' we have been told, 'aims at a knowledge of the truth by means of pure reason.' It is to be assumed that this includes clear reasoning. Faulty logic surely means a very wide rent in any philosophic garb. Yet let us take but one or two specimens of what we should find if for

¹ *Wonders of Life*, p. 458.

² Dr. Dennert has an instructive chapter hereupon in his *Die Wahrheit über Ernst Haeckel und seine Welträtsel*. Here I can only give one sentence: 'Von Goethe sind so viel Stellen bekannt die dagegen sprechen dass er ein Kind Haeckelschen Geistes gewesen wäre, dass es sich kaum verlohnt, sie noch einmal zu zitieren. Nur eins! Er sagt einmal: "die Zeit des Zweifels ist vorüber, es zweifelt jetzt so wenig jemand an sich selbst als an Gott"' (p. 49).

such purpose alone we went seriatim through these volumes.

We will glance only at one or two in *The Riddle*. At the outset we are informed that 'the anthropistic view of the world is in irreconcilable opposition to our monistic system; indeed, it is at once disproved by our new cosmological perspective.'¹ This is a fair statement of the constantly recurring pseudo-logic of these pages. The anthropistic view is 'disproved' by the Monistic view, and the Monistic view is demonstrated by 'our opinion.' How there could be a more flagrant instance of the fallacy known as *petitio quæstionis* it is difficult to conceive.

We are afterwards told that 'all the phenomena of the psychic life, without exception, are bound up with certain material changes in the living substance of the body, the protoplasm.'² In *The Riddle* the particular part of the protoplasm concerned is called 'psychoplasm.' In the later volume³ it reappears under the new name of 'phronema.' But whatever the name the doctrine is the same. 'We

¹ p. 5. I cannot in these pages transcribe the whole of Hæckel's volume; but lest it should seem that in any such quotation I do injustice to the text, the whole of the next paragraph is here presented. It makes no real difference to what is above suggested.

'Not only the three anthropistic dogmas, but many other notions of the dualistic philosophy and orthodox religion are found to be untenable, as soon as we regard them critically from the cosmological perspective of our monistic system. We understand by that the comprehensive view of the universe which we have from the highest point of our monistic interpretation of nature. From that standpoint we see the truth of the following cosmological theorems, most of which in our opinion have already been amply demonstrated.'

² p. 39.

³ *Wonders*, p. 16.

consider the psyche to be merely a collective idea of all the psychic functions of protoplasm.' The intended inference is simple. Consciousness, will, &c., are bound up with changes in psychoplasm; therefore they are nothing more than changes of psychoplasm, and the soul is nothing more than the 'idea' of these changes. The grounds of such inference are even simpler. 'We consider' it so. What more is required? We will only make one suggestion here—as we must return to it afterwards—in the words of the manual of psychology which is specially recommended.¹

Why cannot we simply affirm that consciousness is a function of the brain? The objection is that we do not make the two things the same by applying the same word to them, when in their own nature they are radically and essentially different. When we say that digestion is a function of the stomach, we mean that digestion is the stomach engaged in digesting. But if we describe the brain at work there is no need to mention consciousness at all: and in naming and describing conscious processes, there is no need to mention the brain. The function of the brain as a physiological organ is to move the body. If consciousness is supposed to be produced by the nervous process, the production is simply creation out of nothing.

Further. Not without reason has attention been drawn² to the contents of p. 77 of *The Riddle*, as embodying some remarkable statements. Consider now but one:

Every single object in the world which comes within the sphere of our cognizance, all individual forms of existence, are but special transitory forms—accidents or modes—of substance. These

¹ *Manual of Psychology*, by Professor Stout, p. 49; *Wonders*, p. 297.

² By Mr. R. Christie, in a thoughtful article in *The Contemporary Review* for April, 1904, which merits careful study.

- modes *are* material things *when we regard them* under the attribute of extension or occupation of space, but forces or ideas *when we consider them* under the attribute of thought.¹

Now, if 'material things' and 'ideas' and 'forces' are thus identical, language ceases to be significant, and thought becomes a mere chaos of consciousness. But if these three are—as they assuredly are—to be distinguished, we are invited to understand that the very same 'modes' are transmuted from the one to the other by our varying consideration of them. This is miracle-working indeed. For if an idea be not immaterial, it ceases to be an idea. If, however, its immateriality be conceded, by what process is it transformed into a 'material thing'? If it be said that they merely become such to us, 'when we regard them,' then not only is that other than is here stated, but Monism is reduced to pure subjectivity. Moreover, when a man regards himself—which he is assuredly capable of doing—it would be interesting to know whether he is a material thing, or a force, or an idea. And it would be still more interesting—when we learn, as above, that 'the real organs of mental life in the grey bed of the brain, are those highest instruments of psychic activity that *produce thought and consciousness*'—to be told how these 'instruments,' any more than any other instruments, can 'produce' anything without a producer to employ them. Possibly the author knows of an organ that plays itself, or a printing machine that sets up its own type.

¹ The italics are mine.

In another sphere of thought Professor Haeckel identifies himself and Monistic scientists with the alleged statement of Calvinistic theology, to the effect that 'if man with his free will were to act otherwise than God had ordained, God would not be all-mighty and all-knowing.'¹ Such a procedure is worthy of the philosopher whose 'scrupulous honesty' in regard to matters Christian consists in adopting as theology the gibes of a Saladin, but it is unworthy of any earnest thinker. The sentence, indeed, sufficiently answers itself; for if the 'omnipotence and omniscience of God' had 'predetermined the conduct of man,' how could he be possessed of 'free will'? Strange that such writers cannot see—surely they could if they would—that, as regards almightiness, divine 'omnipotence' does not include a contradiction in terms. Whilst as to omniscience, it is always and necessarily the 'foreknowledge' which is conditioned by the conduct, and not the conduct compelled by the foreknowledge; for the foreknowledge which also predetermined would not be foreknowledge, but predestination, which is an entirely different thing. Whether this latter can be attributed to Christian doctrine is sufficiently discussed, and, one may add, disproved, elsewhere.

Surely also it is anything but sound reasoning to affirm that when the notion of immortality has been 'displaced by progressive culture,' 'man has lost nothing but gained much as regards his life on earth. Convinced that there is no eternal

¹ *Riddle*, p. 46.

immortality determine one's whole view of life as a postulate of practical reason, if we cannot form any definite idea of them?' That is the question. Can there be a better answer than to mark how he himself proposes to do this very thing, in regard to the foundations of Monism? Certainly, fundamental importance must be attributed to atoms, to protoplasm, to biological phenomena in general. What is, then, the state of the case in regard to each of these? As to atoms, we have already quoted enough. But as we can well afford to be generous, let us take yet another statement:

Science has now made it probable that these chemical elements or the as yet irreducible primitive materials, are themselves in turn only different combinations of a varying number of atoms of one original single element. But in all this we have not as yet obtained any further light as to the real nature of these original atoms or their primal energies.¹

Then in regard to 'plasm,' which is, we are assured, the unguided source of everything that lives:

Of the real features of this intricate structure we have as yet no conception. We can only assume that the plasma-molecule is extremely large and made up of more than a thousand atoms, and that the arrangement and connexion of the atoms in the molecule are very complicated and unstable.²

Whilst in reference to 'biological phenomena' generally:

The task of science is to reduce them all to physical and chemical laws. But it can only discharge a part of this difficult task, as the phenomena are too complicated and their conditions too little known in detail, to say nothing of the crudeness and imperfectness of our methods of research.³

¹ *Confession*, p. 20.

² *Wonders*, p. 368.

³ p. 306.

Surely here is confession enough of the lack of 'any definite idea' of the foundations of Monism. And yet all the hope and progress of humanity are to depend upon adopting Monism as 'a postulate of the practical reason'!

In this connexion it is interesting to point out that whilst, as we have just seen, 'we have *no conception* of the real features of this intricate structure' plasm, yet the writer feels perfectly competent to affirm that '*we must clearly understand* that protoplasm—in the most general sense in which we here take it—is a chemical substance, not a mixture of different substances.'¹ He also wishes to 'emphasize the fact that the structureless plasma-body of the simple monera has no sort of organization,' and 'no composition from dissimilar parts co-operating for definite vital aims.'² Here 'structureless' is innocently employed as if its connotation were purely morphological. But the argument requires that it should also be physiological and chemical—that is, molecular—which is in direct contradiction to what is affirmed above, as elsewhere.³

To the question of immortality, or as Haeckel prefers to state it, 'athanatism' *versus* 'thanatism,' we

¹ *Wonders*, p. 128.

² p. 215.

³ And that this is the case is confirmed by the statement elsewhere (*Wonders*, p. 356) that 'it is of radical importance in giving a naturalistic solution of the problem of the origin of life, to start from these structureless granules of living matter.' Whereas on p. 31 we read that 'the molecular, invisible, and hypothetical structure must not be confused with the real and microscopically discoverable structure of the plasma, which is of great importance in the question of organisation.'

thinking that archigony was repeated several times even down to our own day.' Of course the contradiction here may be saved by the Monistic assumption, as modest as ever, that in such rise of the living, as compared with the non-living, there is nothing 'created anew.' But this absolute identification of life with not-life, is the very point to be proved. It is, therefore, not to be conceded upon mere demand. Nor does the affirmation of latest science,¹ that life is 'a series of fermentations,' however 'simple,' help the case, for the fermentation of the living, as compared with the non-fermentation of the not-living, is assuredly something 'new,' for which an adequate cause must be forthcoming. Whilst the all-conclusive dictum that 'there is no longer any dividing line between the animate and the inanimate; there is no dead matter; in some obscure degree all matter lives,' is but the substitution of hypothesis for science, of affirmation for demonstration, and of obscurity for reasoning.²

How far apart may be the links in the pseudo-chain of Monistic logic, a multitude of examples are at hand to show, were it necessary or desirable. Take one instance only. On p. 39 of *The Riddle* we are told that the 'soul' is 'merely a collective idea of all the psychic functions of protoplasm,' merely (72)

¹ 'Physiology's present answer to the old riddle is very simple: life is a series of fermentations.'—Snyder, *New Conceptions in Science*, p. 229.

² Well says Professor Schoeler hereupon: 'Hypothesengebäude, mögen sie architektonisch noch so schön aufgebaut, und mit noch so prächtigen Façaden versehen sein, sind aber keine wissenschaftlichen Thatsachen.'—*Probleme*, &c. p. 65.

'a collective title for the sum total of man's cerebral functions.' But later it appears¹ that 'our monistic system regards all substance as having "soul"—that is to say, endowed with energy.' These are certainly interesting synonyms. In the one case 'the soul is merely a physiological abstraction, like assimilation or generation.' In the other the soul is 'energy.' How 'energy' and 'a physiological abstraction' can be one and the same thing can, indeed, only be demonstrated by one of those verbal conjuring tricks with which Monism is so profusely illustrated.

One other feature of the philosophy before us, which is virtually indistinguishable from self-contradiction, is the number of final foundations upon which it rests. At the outset Haeckel's champion informs us² that the 'position'—that is, the affirmation—that one 'matter-force substance is the sole reality that exists,' is 'the starting-point of that network of explanations, theories, and hypotheses which constitute the monistic philosophy.' In *The Riddle* Haeckel identifies himself with Naegeli's statement that archigony is an 'indispensable thesis in any natural theory of evolution,'³ such as Monism loudly claims to be. When we get as far as the monera, 'the chromacea alone serve as a solid foundation for the chief theses of our monistic biology.'⁴ Afterwards, it appears that 'the most solid foundation of our monistic psychology'—which, it must be remembered, necessarily and avowedly

¹ *Wonders*, p. 308.

² *Haeckel's Critics Answered*, p. 20.

³ *Riddle*, p. 91.

⁴ *Wonders*, p. 215.

includes the wills and loves of the atoms—'is the fact that the human mind grows.'¹ Farther on the writer 'would lay stress particularly upon the fact that our mechanical biogeny is one of the strongest supports of the monistic philosophy.'² Then, towards the end, we are brought back to the avowal that 'we must base our monistic system upon the universality of the law of substance.'³ Whereas, at the close, the final pronouncement is 'I am convinced that sensation is like movement, found in all matter, and this trinity of substance provides the safest basis for modern monism.'⁴ Here is a choice of fundamentals in very deed. No doubt the first and intended impression upon the average reader's mind will be, how happy is the Monist to have so many sure foundations for his faith! But a little further reflection must surely show that this superabundance of verities is somewhat embarrassing. Such seeming excess of safety really indicates instability. If the Monistic 'system' be anything, it is a chain of argument; and the strength of any chain is merely that of its weakest link. These, therefore, which are specially singled out by the systematizer, as the main supports of the whole, carry with them in each separate case the fate of the total system. Falsity in any one of these theses, connotes the untruth of the whole 'philosophy.' That being so, it should not be difficult to come to a rational conclusion. In the following chapters it is hoped that the grounds for doing so in each of the

¹ *Wonders*, p. 335.

² p. 401.

³ *Wonders*, p. 462.

⁴ p. 465.

main points alleged will be made clear. Logically, indeed, one mortal wound should suffice. But as many lives are conferred upon error by the infatuation of untrained minds, it becomes imperative to expose each faulty link, and lay bare the sandiness of each vaunted sure 'foundation.'

Meanwhile, the above series of examples, though very far from exhaustive, is sufficient to exhibit fairly the quality of the alleged philosophy. For these dogmatisms, assumptions, untrue allegations, misrepresentations, false reasonings, self-contradictions, are not mere *obiter dicta*, argumentative asides, superfluities of diction. They are the very stones out of which this modern Tower of Babel is built. Take these away, and the whole structure comes clattering down in ruins. But the 'system' which requires such supports as these, is doomed from the outset. To represent all these assumptions as only the warrantable projection of facts into the 'theory which is indispensable for all true science,' is but the verbal jugglery of an eager partisan. To call such a conglomeration 'philosophy,' is but to play fast and loose with words. For the sweeping conclusions which emerge, are not drawn from facts, but from predetermined conclusions. They embody, not a fair scientific induction—for wealth of illustration is quite compatible with poverty of induction—but an utterly unfair and unscientific deduction. The result is not a philosophy, but an accumulation of pseudo-philosophic shreds. Out of such tatters, a garment of truth exhibiting that 'dignity and

sincerity which are the first qualities required in its pursuit,'¹ can never be woven. We will now proceed further to consider 'the true and vital issues' of Haeckel's monism in the main matters named.

¹ This is a sample of the favourite type of sentence in Mr. McCabe's brochure (p. 21): 'No one who believes that truth is a sacred possession and the first condition of lasting progress, no one who feels that dignity and sincerity are the first qualities required in its pursuit, will allow himself to be turned from the true and vital issues by a petty and frivolous criticism of irrelevant details.' It is unfortunately a fair specimen, in its manifest and intended insinuations, of the 'modesty' which this literary fulmination—for it cannot honestly be called anything else—thrusts upon us. At all events the matters dealt with above are not 'irrelevant details,' for by them Monism stands or falls. Whether the pages that follow are 'turned from the true and vital issues,' the impartial reader must decide for himself. One note should perhaps be added. In covering so vast a field as is necessitated, with so many important details, it is inevitable that there should be some degree of repetition. The above chapter merely presents a bird's-eye view of what must be examined in greater detail. Should some serious points or weighty quotations occur more than once, the ceaseless demands of an engrossing public life, amidst which this unwelcome task is undertaken, must constitute sufficient apology.

III

MYTHICAL SCIENCE AND THE ORIGIN OF LIFE

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'As biology is expected to accept as final the mechanical interpretation of the world—although there is so far not the remotest prospect of a physical theory of life—so psychology in turn is expected to concur in the deliverances of physiology, although all attempts to deal with mind in terms of brain have so far been futile. But if the real is always concrete, the more abstract view of things is, after all, not the more fundamental, and to treat it as such cannot be an ultimately valid procedure.'

PROF. JAMES WARD, *Hibbert Journal*, Oct. 1905, p. 91.

'The very use of such a term as "physical basis of life" implies a radical difference between the two things, conjoined in the descriptive phrase. But what do we mean when we speak of a basis? Is it a foundation on which something is to be reared, or built up? The mere statement of what is sought for in this fashion shows that the search is vain. What is built up on a physical basis will be a physical structure; but such a building would explain nothing as to its own contents. In other words, the origin of life is not explained by the origin of its physical envelope.'

KNIGHT'S *Aspects of Theism*, p. 91.

'The true nature of the antecedents is only learned by reference to the consequents which follow, or, as I put it before, the true nature of the cause becomes apparent only in the effect. All ultimate or philosophical explanation must look to the end. Hence the futility of all attempts to explain human life in terms of the merely animal, to explain life in terms of the inorganic, and ultimately to find a sufficient formula for the cosmic process in terms of the redistribution of matter and motion.'

DR. ANDREW SETH, *Theism*, p. 43.

'But to conceive atoms tumbling for ever through infinite space, meeting, and by impact causing heat and changing direction or form, yet ever acting according to their mechanical properties, is not to come one whit nearer the understanding of how this inorganic mass became the parent of all organic being. It is significant that neither modern physics, perhaps the most audacious in speculation of all the sciences, nor chemistry, possibly the most skilled in the secrets of nature, has advanced us here a single step beyond Democritus; instead of his *ἀνὰ κτλ* men may use the terms "chance" or "unknown," but they all mean the same thing; to matter, as science must conceive it, causation of life, not to speak of mind, is a sheer impossibility.'

FAIRBAIRN, *Philosophy of the Christian Religion*, p. 53.

III

MYTHICAL SCIENCE AND THE ORIGIN OF LIFE

PROFESSOR HÆCKEL seeks regard for his writings not only as representing philosophy, but science. We have seen how poor is their claim to the former title; we have now to investigate their right to the latter. The web of the 'philosophy' is so largely woven out of elements which, in such a case, should be conspicuous by their absence, that we may set it aside without any intellectual compunction. Is the scientific side of his contention any more free from these dogmatisms, assumptions, contemptuous references, misrepresentations, &c.? A little careful scrutiny soon supplies proof to the contrary.

Apart from the 'modesty' of the assertion that 'a good deal of the infinite confusion that characterizes the conflicts of philosophers over their system, is due to the obscurity and ambiguity of many of their fundamental ideas,'¹ by what right does he beg the whole question under discussion by avowing that his 'hylozoism' expresses the fact

¹ *Wonders*, p. 84.

that 'all substance has two fundamental attributes: it occupies space, and is endowed with sensation.' Elsewhere he himself here counts three instead of two, but waiving that for the moment, such an assumption of actual fact where there is only pure hypothesis is a common characteristic of his 'monistic system.' It is well matched by a similar assertion in *The Riddle*, that natural selection 'gave us the solution of the great philosophic problem, How can purposive contrivances be produced by purely mechanical processes without design?' so that 'thus we have got rid of the transcendental design of the teleological schools.'¹ For the very next paragraph contains the acknowledgement of the avowal of a 'distinguished botanist' (J. Reinke), who thinks exactly the opposite. But his views, we are modestly told, 'do not call for serious scientific refutation to-day.'

Doubtless this writer would say the same when Professor Henslow asserts—with sixty pages of scientific reasons—that 'there are no facts known to occur in Nature in support of Darwinism.'² Be this as it may, at least the remark of Haeckel's champion has quite as legitimate an application here as elsewhere when he says: 'The authority of Dr. Haeckel himself on this point is paramount. He has made a lifelong study of it.'³ So has Professor Henslow, as his books in *The International Scientific Series* testify.⁴

¹ *Wonders*, p. 93.

² *Present-day Rationalism*, pp. 51, 146.

³ *Haeckel's Critics Answered*, p. 44.

⁴ Vols. lxiv. and lxxvii..

Again, reference is made to other facts which 'in the most striking fashion give a direct contradiction to the teleological idea of the purposive arrangement of the living organism.'¹ Yet it was Professor Huxley who avowed that Darwinism did not destroy teleology; and it was Dr. Asa Gray who wrote about 'the great gain to science from Mr. Darwin's having brought back teleology to natural history.' Are these also to be dismissed with contempt? Moreover, by Haeckel's own acknowledgement, 'Carl Naegeli, one of our ablest and most philosophic botanists, rejects Darwin's theory of natural selection altogether.'² Is it, then, any wonder that even so careful a writer as the late Mr. Aubrey L. Moore should refer to 'the insolent dogmatism of Haeckel'?³

For a fair specimen of the assumption which has to do duty for science so often in the building up of the 'monistic system,' take such a statement as this: 'Physicists and chemists,' we are told, 'will not hear a word about a soul in the atom. In my opinion, however, this *must necessarily be assumed* to explain the simplest physical and chemical processes. As in the chemical synthesis in the moneron, so in crystallization, we are bound to assume that there is a low degree of sensation, in order to explain the orderly arrangement of the moving molecules in a definite structure.'⁴ So too in regard to the monera: 'these nucleated elementary organisms could not be the earliest archigenuous living things,

¹ *Riddle*, p. 94. ² *Wonders*, pp. 380-1. ³ *Science and the Faith*, p. 188.

⁴ *Wonders*, p. 85.

but *must have been* evolved secondarily from the unnucleated monera.'¹ But has science anything to do with what 'must have been'? Is genuine science built upon what must 'necessarily be assumed'? Was it not Professor Tyndall who asserted that, 'without verification, a theoretic conception is a mere figment of the intellect'? Nay, is it not Professor Haeckel himself who tells us that 'the means and methods of all purely scientific investigation' are 'firstly experience, secondly inference; scientific experience comes to us by observation and experiment'²? By what observation, then, or experiment, or logical inference, can we predicate souls in chemical atoms, and unnucleated monera as the parents of nucleated?³ Is this the kind of 'speculation' which deserves to be called 'philosophic achievement'?⁴ Is it not rather 'pure speculation,' the true name for which is, on the author's own showing, 'mythical' science?

To answer this fairly and fully no subject can be at once so fitting and important as that of the

¹ *Wonders*, p. 356.

² *Riddle*, p. 6.

³ The student will here appreciate the words of Professor Schoeler (*Probleme*, p. 31): 'Das Protoplasma ist also kein amorpher aus einfachen Kohlenstoffverbindungen bestehenden Schleim, sondern eine bereits durch ein belebendes Prinzip individualisierte Substanz, deren Konstitution dunkel bleibt, da wir es bei der Erforschung derselben schliesslich mit unsichtbaren Grossen zu thun haben. Zudem, was die hypothetischen Moneren betrifft, so widerspricht die Annahme kernloser Zellenwesen allen unseren biologischen Begriffen.' That this expresses all that we at present know—'the empirically established facts'—there can be no doubt. Hence, here also, according to Haeckel's own defining, we have to do with the mythical science of Monism.

⁴ *Riddle*, p. 7.

origin and nature of life. For it is not only of the intensest interest in general, but is a veritable keystone of Monism, and is the theme of a specially characteristic chapter on the part of Haeckel's advocate.

I. Whilst science has nothing to do with what must be, it has much to do with what may be. Well-warranted theories are both permissible and useful, for their tentativeness has the double advantage of including all facts known at the time, and of being easily dismissed for another theory when a wider induction becomes possible. Hence there is no objection whatever to the statement that 'theory is indispensable for all true science; it elucidates facts by postulating a cause for them.'¹ But there must be no such dogmatism as is illustrated above, nor must there be any sneering at 'the perverse conclusion'² of those who differ. Nor is it permissible to glide off from acknowledged hypothesis into assumed finality, in such an unqualified statement as that 'the monera arise by spontaneous generation from these inorganic carbonates.'³ For whence come these nitro-carbonates? From the mere 'possibility' that 'protoplasm has been evolved from nitrogenous compounds'!

Again, if 'the theory of natural selection,' or any other theory, 'clearly and distinctly demands'⁴ that such and such things should be, it simply puts itself out of court, for it is not the business of a theory to

¹ *Riddle*, p. 106.

² *Riddle*, p. 131.

³ *Wonders*, p. 373.

⁴ *Wonders*, p. 198.

'demand' anything. Its function is suggestion, not requirement. Certainly it is no business of any 'theory' to make such glaringly false assertions as that 'all botanists are now agreed that this most important process of vegetal life, the faculty of the living green plant cell to assimilate carbon, is a *purely chemical* process,' and that 'there is no question of a specific vital force, or a mystic constructor, or any other transcendental agency, in connexion with it.'¹ Witnesses to the contrary are sufficiently indicated above. In a word, whenever theory is employed, there must be the acknowledgement that it is no more than theory, otherwise known as 'speculation.' Let us take a statement of the case in our Professor's own words:

The imagination of civilized man is ever seeking to produce unified images in art and science, and when it meets with gaps in these, in the association of ideas it endeavours to fill them with its own creations. These creations of the phronema, with which we fill the gaps in our knowledge, are called *hypotheses* when they are in harmony with the empirically established facts, and *myths when they contradict the facts*; this is the case with religious myths, miracles, &c.'²

Here, in the last clause, we have further proof of

¹ *Wonders*, p. 357. We shall return to this in a future chapter. Here it will suffice to note that Professor Henslow is as good a botanist as Haeckel himself is a zoologist. If, then, the reader will study his chapter on 'Directivity, a Witness of Mind in Evidence throughout the Living World (*Present-day Rationalism*, p. 69), he will be able to appreciate the truthfulness, no less than the modesty, of the above assertion. So too, to quote Schoeler once more: 'Doch gleichviel ob "lebendiges Eiweiss" oder "Biogen"—beide sind nichts anderes als eine elende *Petitio principii*! Auch ist mit dieser Hypothese nicht viel gewonnen.'—*Probleme*, p. 27.

² *Wonders*, p. 90. Italics mine.

the truth of the estimate above given, that these works of Hæckel are not so much either science or philosophy as tirades against Christianity. In no genuinely scientific or philosophical work would such a clause be in the least degree called for. However, it may serve, when reversed, to express the truth, which we will now proceed to show, viz. that 'this is the case with' Monism.

II. The inseparable questions as to the nature and the origin of life have long occupied the ablest minds. So far as we are here concerned, besides the fact that the matter is of intensest interest and importance to science generally, we need only note that with the theory of 'archigony,' according to Hæckel's own admission, his Monism stands or falls. The shuffle of attempted distinction on the part of Hæckel's champion between what is 'fundamental' and what is 'necessarily involved' we have pointed out above. 'To reject abiogenesis' is, confessedly, not only 'to admit miracle,' but to dismiss Monism from consideration. That the 'miracle' involved in such rejection is not absolutely essential to Christian belief, has been sufficiently pointed out by many writers.¹

III. There neither is, nor has been, any mis-

¹ In his *Hæckel's Criticism Answered* Mr. McCabe mentions several, and in my own necessarily condensed articles in *The British Weekly*, to which he so scornfully refers, the sentence stands: 'It must be definitely understood that if life were discovered to-morrow, either through analysis or synthesis of the non-living, it would be by no means fatal to Christian belief. We do not build the stronghold of our faith upon any gap in our knowledge.'

understanding or misrepresentation of the Monistic position in this regard. Haeckel himself loudly complains that—

It is due to this pitiable condition of biological methods of research, that our hypothesis of archigony is still attacked or else ignored. Why? Because the false hypothesis of saprobiosis, which has absolutely nothing in common with it but the name 'spontaneous generation,' has been refuted by the experiments of Pasteur and his colleagues.¹

Now in the first sentence here, we have yet another of the myriad instances of the modesty which his advocate so much extols.² 'There is,' we are told, 'an astonishing superficiality and lack of discernment,' on the part of those who decline to accept archigony in face of the modern results of investigation. Now if we were disposed to adopt Mr. McCabe's favourite metaphor of 'throwing dust,' this would seem to be an appropriate occasion for its employment. Let us, instead, proceed to another step in the matter.

¹ *Wonders*, p. 366.

² Haeckel's translator is of course eager to emphasize the wrath of his master. So he appends to this same page the volunteered statement that 'I may remind the English reader that the chosen ecclesiastical champion against Haeckel in this country, the Rev. F. Ballard, made this extraordinary fallacy the very pith of his scientific attack on monism.' Elsewhere the same false representation is pointed with a sneer (*H. C. A.*, p. 41). 'He, a bachelor of science, has blurred the distinction between actual abiogenesis and archigony, which is essential, and which has been pointed out for twenty years by men of science. And this is the culmination of his attack on Dr. Haeckel, and I suppose the chief justification for the gross epithets he has showered upon one of the most venerable figures in the scientific world.' I quote this in full because it represents only too fairly this author's general style. But there is no truth in any of these allegations. If it be worth while,

IV. Is it true that 'the false hypothesis of saprobiosis has absolutely nothing in common with' abiogenesis but the name 'spontaneous generation'? Has the utter disproof of the former, 'nothing whatever to do' with the confident acceptance of the latter? Assuming the sincerity of such a suggestion, surely the confusion is none the less manifest. Three things are here to be carefully marked. (1) If saprobiosis be put in comparison with abiogenesis, it is utterly false to say that they have 'absolutely nothing in common.' For the essential problem is in both cases exactly the same, viz. the production of the living from the non-living. As material for the production of life, what is the difference between 'lifeless inorganic compounds,' and 'the putrid and decomposing organic elements of higher organisms'? Must they not be 'lifeless' before they are 'putrid'? (2) If there be any lessening of the problem conceivable, it must surely be in the latter case. It ought, one may venture to say, to be

the reader may be challenged to find a single word of mine to justify them. The sneer is unworthy of an educated man. For the rest: (1) There is no word of attack upon Dr. Haeckel in my writings. My objections, confessedly expressed as strongly as I know how to do, are directed against his methods and principles. Are these to go for ever unopposed because Dr. Haeckel is Dr. Haeckel? (2) That there is no such 'extraordinary fallacy' any one can see who will read what is written in either my *Miracles of Unbelief* (pp. 352-3, popular edition), or in *The British Weekly* for August 6, 1903. The whole case is summed up in one sentence: 'Since therefore, on his own admission, the doctrine of abiogenesis is absolutely necessary to Monistic evolution, and there is, according to science, neither fact nor prospect of abiogenesis, the conclusion is as plain as inevitable that there is no scientific validity in the Haeckelian assumption.' I see no reason to alter any word in this statement.

easier to bring life out of dead higher organisms than out of inorganic carbon-compounds. For where life has been, it would seem as if the necessary materials were more nearly ready for life, than where there would have to be an entirely new arrangement of molecules. Resurrection should be an easier task than vital creation. Thus it may be truly said that if modern science can do nothing towards the solution of the easier problem, it is so much the less likely to unravel the harder. But (3) does 'saprobiosis' cover all the ground of present-day knowledge relative to 'spontaneous generation'? Certainly it does not. For the exhaustive experiments of Pasteur, Tyndall, Dallinger, Drysdale, &c., included a much wider field. The question was not simply whether life could be traced back to putrid organic débris, but whether, when all life was really and truly excluded, *any matrix* that could be found or tried would of itself produce life. That was the question which was both asked and answered. And it is that answer which is so truly summarized by Sir Oliver Lodge in a recent public avowal:

Haeckel's first main proposition is equivalent to a developed kind of spontaneous generation: a hypothesis contrary to, or at least unsupported by, the facts of science at present known—the facts of biogenesis; for though the origin of life may be the outcome of the science of the future, it certainly has no place in the science of to-day.¹

V. Hence, when all that is imperfectly summarized under 'the false hypothesis of saprobiosis' is

¹ *Hibbert Journal*, January, 1905, p. 320.

apprehended, it has assuredly a great deal in common with 'abiogenesis or archigony.' Even so much as this, that the disproof of the former covers all 'the empirically established facts,' and that these, without any exception, 'contradict' the hypothesis of archigony. So that on Haeckel's own terms¹ it becomes no longer a 'hypothesis,' but a 'myth'; whence it also follows that the Monism which stands or falls with it is also mythical. And this is precisely what Sir Oliver Lodge has so well said:

Spontaneous generation is a speculation, not an ascertained fact. A reader of Haeckel might easily assume that it was scientifically established that life could spontaneously originate from dead matter without animation from anything outside itself; and, moreover, that the atoms of matter possessed in themselves and their forces the elements not only of vitality but of the further developments of consciousness and will. My contention throughout is not that Professor Haeckel's statements are necessarily untrue, but that they are of the nature of philosophic speculation or brilliant guess-work.²

VI. As to the brilliancy of this myth, there may be differences of opinion, especially when it cannot even be formulated without collision with facts which are most manifestly established, both in observation and experience. Thus the more closely we examine it, the more it is found to be a veritable tissue of assumptions, confusions, and self-contradictions, only a few of which can here be exhibited; but they will suffice to show how 'brilliant' is this latest specimen of Monistic 'guess-work.'³

¹ See p. 98.

² *Hibbert Journal*, p. 320.

³ In his latest feat of championship (*Hibbert Journal*, July, 1905, p. 754) Mr. McCabe is pleased to inform us, in one of his illuminating 'asides,' that 'Haeckel is concerned with facts rather than

As to assumptions, we note first that in *The Riddle*¹ we are informed that the 'carbon theory was erected thirty-three years ago, on the basis of five fundamental facts.' Then, turning to these, we find that the third of them, as alleged, is this: 'Organic life itself is a chemico-physical process based on the metabolism of these albuminates.' Now let us see how neatly this exhibition of Monistic jugglery works out. The 'theory' is, that 'the peculiar chemico-physical properties of carbon are the *sole* and the *mechanical* causes of the specific phenomena of movement which distinguish organic from inorganic substances, and which are called life in the usual sense of the word.' The suggestion is brilliant indeed. First, it is quietly affirmed—not as a part of the 'theory,' but as a fact to be acknowledged—that movement alone distinguishes organic from inorganic substances; that is to say, life, 'in the usual sense,' consists of movement, and of movement only. Then the 'basis' of the theory that carbon compounds are the sole cause of these movements, is that 'organic life itself is a chemico-physical process.' In other words, it is so because it is so. Which may be Monistic, but at least is not scientific. Yet this is the kind of proof which is supposed to supply sufficient warrant for the reiteration of the same 'theory' again and again.

The restatement is confessedly no less brilliant.

possibilities—especially possibilities that seem to be strangely remote from the facts.' The reader is requested to employ this golden sentence as a principle of measurement, in the examination of 'archigony' which here follows.

¹ p. 91.

'We are justified in supposing,'¹ it seems, that 'thousands of planets,' around many other suns, are in the same condition as regards the existence of water on their surface as our own globe. 'Therefore' (*sic*), both there and here, 'protoplasm—that wonderful substance which alone, so far as our knowledge goes, is the possessor of organic life—has been evolved.' We may be sure of this, because 'the monera (for instance, chromacea and bacteria'), which consist only of this primitive protoplasm, arise by spontaneous generation from these inorganic nitro-carbonates.' This is truly logic made easy—by assertion.

But again, in regard to this wonderful protoplasm, 'we must clearly understand that it is a chemical substance, not a mixture of different substances. I must, from my point of view, entirely reject Oscar Hertwig's conception of living matter as a "mixture" of a number of chemical elements.'² Only those, of course, who are sufficiently familiar with chemistry to appreciate the difference between a 'mixture' and a 'combination' will estimate aright the assumption here. It is confessedly necessary from the 'point of view' of Monism; but are the facts of the case under any obligation to conform themselves to the Monistic Weltanschauung? Perhaps even Professor Haeckel, who acknowledges elsewhere—

My own command of the various branches of science is uneven and defective,³

¹ *Riddle*, p. 130.

² For which, by the way, Haeckel claims an animal rather than a vegetable relationship.

³ *Wonders*, p. 128.

⁴ Preface to *Riddle*, p. xv.

will allow that Sir Henry Roscoe was as well acquainted as himself with modern chemistry when he said at the British Association meeting in 1887:

Protoplasm, with which the simplest manifestations of life are concerned, is not a compound, but a structure built up of compounds. The chemist may successfully synthesize any of its component compounds, but he has no more reason to look forward to the synthetic production of the structure than to imagine that the synthesis of gallic acid leads to the artificial production of gall-nuts.

And it is Professor Dolbear (to whom Haeckel's translator makes special reference) who reminds us that, in latest researches, 'Butschli, on the basis of his experiments, concludes that protoplasm is an emulsion [that is, a mixture] of two fluids which mechanically presents the honeycomb structure, and that, so far, the structure is wholly due to the physical and molecular qualities of the mixed substances.'¹

Volumes might be written, in addition to those already in print, concerning the wonders of protoplasm, especially in regard to its structure or its structurelessness. We have seen how Haeckel claims that there is in the plasm '*a real and microscopically discoverable structure, which is of great importance in the question of organization.*' Professor Dolbear, however, affirms that 'this protoplasm is entirely structureless, homogeneous, and as undifferentiated as to parts as is a solution of starch or the albumen of an egg.'² And Professor Beale, whose qualifications to speak hereupon, as an expert, are

¹ Dolbear, *Matter, Ether, and Motion*, p. 369.

² p. 280.

acknowledged even by Mr. McCabe,¹ affirms that this same protoplasm is a

perfectly clear, transparent, colourless, semifluid or diffuent matter, utterly devoid of any character to which the term structure can with fairness be applied. By structureless I mean not only that no threads or fibres or lines or dots or particles can be discovered by the use of the highest powers of the microscope, but that every part of the matter named structureless is mobile, and can freely pass amongst other portions.

Butschli thinks that 'if there be so-called structureless protoplasm, it is only apparently so because the meshes are too fine to be seen.'² And yet the meshes 'are only molecular—what was taken for a network peculiar to a living mass is really only emulsion.' On either view of the matter, however, the problem for Monism is sufficiently difficult. Professor Haeckel, whilst contradicting himself,³ protests that such structurelessness must not be confused with the 'highly elaborate, invisible, and *hypothetical molecular* structure of the same plasm.' Be it so. But this does not at all help Monistic pleaders for abiogenesis or archigony. No amount of molecular structure *per se* makes morphological structure. So that the task still remains, out of a morphological cypher to produce the organic world. Whilst even if a 'real and microscopically discoverable structure' be conceded, against Beale and Dolbear, the problem is yet indescribably desperate. For it is how to explain the

¹ *Haeckel's Critics Answered*, p. 43: 'Now, Professor Beale is an able scientist and an original worker.'

² Dolbear's *Matter*, &c., p. 369.

³ 'True protoplasm cannot have any anatomic structure.'—*Wonders*, p. 133. Compare this with the quotation on preceding page.

unstimulated, unhelped, unguided 'emergence' of a definitely-organised intricate complexity, out of a preceding unquestionably unorganised simplicity.

Now even if we should concede, what we shall presently dispute, that life connotes nothing more than mechanism, the task of constructing protoplasm out of inorganic material is hopelessly prodigious. The 'invisible molecular structure which we are bound to assume for the structureless protoplasm' is so 'highly complex' that, chemically considered, it is

made up of many atoms of carbon, hydrogen, oxygen, and nitrogen, with a small number of atoms of sulphur and phosphorus, more than a thousand of them in one molecule, and there appears to be a great number of varieties of it. A small pellicle of this possesses its various attributes in equal degree in every part. The diameter of the molecule may be estimated at about the five-millionth of an inch, so that a speck of protoplasm one ten-thousandth of an inch in diameter would require not less than 500 of such molecules in a row to span it, and there would be no less than 125,000,000 of such molecules in the small mass.¹

This is expressed by Haeckel himself in the following propositions:

(1) The molecule of albumin is unusually large, and therefore its molecular weight is very high, higher than in most or all other compounds.

(2) The number of atoms composing it is very large, probably much more than a thousand.

(3) The disposition of the atoms and groups of atoms in the albuminous molecule is very complicated, and at the same time very unstable, that is to say, very changeable and easily altered.²

This statement, however, even if we add to it the reminder that the composition of the albumin molecule is said to be $C_{60}H_{100}N_{16}O_{20}$, really conveys

¹ Dolbear's *Matter*, &c., p. 280.

² *Wonders*, p. 131.

to the ordinary reader no idea of all that is involved, without further comparison. Given the assertion of Haeckel that 'no other elements are found in organic bodies than those of the inorganic world,' and it seems to be fairly easy to conceive of four of these being fortuitously—or necessarily—brought together to form an initial protoplasmic molecule. But the simplicity vanishes with the least appreciation of the vast importance of the smallest variations in organic chemistry. The possible combinations of C, H, N, O, are simply innumerable, and their physiological potentialities are utterly inscrutable. Thus $C_{20}H_{22}N_2O$ shows the constitution of cinchonine, one of the valuable alkaloids of cinchona bark. To the uninstructed it would be a light matter to change this into $C_{17}H_{19}NO_3$, but it would not be a light matter to the human being who took the latter for the former, seeing that it would mean the substitution of an alkaloid of opium—morphine—for bark, a narcotic poison for a tonic. But in order to give us quinine once more the chemist has only to produce $C_{20}H_{21}N_2O_2$. How careful, however, he must be in the process, even the non-student will easily perceive, when he learns that if only $C_{21}H_{22}N_2O_2$ be arrived at instead, we have the deadly poison strychnine. Whilst if a heroic display of simple C and H be adopted, the equally deadly aconitine, $C_{34}H_{48}NO_{12}$, will result. Suppose, however, that oxygen be not forthcoming, and hydrogen and nitrogen be reduced to a minimum, surely the product must then be harmless, a tyro may assume.

But the chemist will soon tell him that now we have such a deadly poison, HCN, anhydrous prussic acid, that 'it ought never to be prepared in a laboratory.'¹ Thus the size or complexity of a molecule is by no means a necessity for vast physiological effect. Suppose, therefore, that we assume $C_{60}H_{100}N_{16}O_{20}$ as the true formula for albumin, what have we gained towards the explanation of the mystery of life in protoplasm? Absolutely nothing. Or rather less than nothing; for if no chemist living can prophesy what will be the effect of the change of one single atom in the molecule of an alkaloid, how much less can he say anything concerning a molecule which confessedly includes more than a thousand atoms?² Save this, that in no conceivable aggregation of C, H, N, O,

¹ H. F. Morley, *Organic Chemistry*, p. 165.

² How far any single formula really is from expressing the truth, may well be gathered from the following, quoted by Professor Henslow (*Present-day Rationalism*, p. 40), in regard to *aethalium septicum*. This is one of the myxomycetes, a group of organisms 'on the very confines of the animal and vegetable kingdoms, doubtfully included among the fungi. When the spore falls into water, it ruptures and gives forth an amoeba-like body consisting of a little mass of protoplasm with nucleus and pseudopodes.' 'The result of an analysis of the plasmodium of *aethalium septicum*, showed 71.6 per cent. water and 28.4 per cent. solid matter. The latter was composed of 30 per cent. of nitrogenous compounds, eg. plastine, vitelline, myosine, pepsine, lecithine, guanine, sarcosine, xanthine, and ammonia carbonate; 41 per cent. was composed of ternary compounds, including paracholesteroline, resin, and a yellow pigment, sugar (non-reductive), various fatty acids, and neutral fatty substances. The remainder was composed of mineral substances, including calcium combined with various acids, phosphates of potassium, and magnesium and chloride of sodium, &c. This illustrates the extraordinary complexity of the protoplast, and the impossibility of obtaining more than an approximation of its chemical composition.'—From *A University Text Book of Botany*, by Dr. Campbell, Ph.D.

is there any warrant from science for assuming the creation of an absolutely new principle, viz. life, 'in the usual sense of the word,' as Haeckel puts it.¹

Here, however, we are brought right up to Haeckel's latest attempt to patch up the assertion of abiogenesis, so as to make it at once cover all the past and suit all the present. In spite of the calm assurance in *The Riddle* that 'the monera arise by spontaneous generation from these nitrocarbonates,' the subsequent volume acknowledges that 'we are still far from a satisfactory solution of this fundamental problem of biology.'² How far, the latest—and, we may assume, best—summary of results takes us, may now be examined. Some twenty years ago we were informed that 'living protoplasm owes its property of life to the presence of aldehyde groups, which are characterized by intensely active atomic movement.'³ Now the aldehyde group ($\text{H, CHO; CH}_3\text{CHO; C}_2\text{H}_5\text{CHO, \&c.}$) holds a position intermediate between the alcohols and acids, but they contain no nitrogen. The 'more confident and effective defence of the carbon theory,' than which 'no better monistic theory has yet appeared'—so says *The Riddle*—means that

¹ The case is well expressed by Schoeler (*Probleme*, p. 32): 'Beim Vollzuge des Lebens zeigt sich also gewiss das Walten physikalisch-chemischer Gesetze: aber diese Gesetze sind nicht das Leben, und es besteht nicht im Stoff-wechsel der Eiweisskörper. Denn das Prinzip des Lebens kann nur geistiger Natur sein, wenn wir uns auch keinen positiven Begriff davon machen können: es besteht in der Reizempfänglichkeit und Reaktionsfähigkeit, in der Kraft, zu leiden und zu wirken, d.h. zu empfinden und zu begehren!'

² p. 128.

³ *Medical Press and Circular*, August 16, 1882.

'the peculiar chemico-physical properties of carbon—especially the fluidity and the facility of decomposition of the most elaborate albuminoid compounds of carbon—are the sole and the mechanical causes of the specific phenomena of movement, which distinguish organic from inorganic substances, and which are called life, in the usual sense of the word.'¹ We have already partly estimated this assertion. It only remains to notice that here also, nitrogen—one of the most inert of the elements—does not appear. Presently, however, on the same page, the 'albuminoid compounds of carbon,' become the 'inorganic carbonates.' It would certainly, in passing, be interesting to know which of the inorganic carbonates is 'albuminoid.' But later (p. 130) we learn that the nitrocarbonates are the most hopeful for the purpose.²

In the later book, however, further development has taken place. We have now, thanks to Pflüger and Verworn, 'the theory which I believe to be correct.'³ So that we are here dealing with Monistic science up to date. In fair summary it is this: (1) Pflüger sharply distinguishes between living and dead albumin. The latter is stable, the former very unstable. (2) The real cause of the instability of the

¹ p. 91.

² It must be acknowledged that, some ten years before, Professor Huxley, with genuine Monistic assurance, had affirmed that 'when carbonic acid, water, and ammonia are brought together, under certain conditions, they give rise to the still more complex body protoplasm, and this protoplasm exhibits the phenomena of life.' 'Under certain conditions'—when, *without the accompaniment of life*, these are neither experimentally actual nor chemically conceivable.

³ *Wonders*, pp. 359-63.

living albumin is found in the presence of cyanogen—HCN.¹ (3) But how do we know that the living albumin always contains the HCN radical, and that the dead albumin does not? Because (let the reader carefully note) (i) the ‘decomposition products of plasm’ contain it, and (ii) because urea, CHNO, ‘can be artificially produced from cyanic compounds, as Wöhler showed’! (4) It is the HCN ‘which gives its characteristic *vital* properties to the plasm.’ (5) This we know because of the analogies between cyanic compounds and living albumin, especially cyanic acid—HCNO—which Pflüger describes ‘as a semi-living molecule.’ (6) The original HCN for such result, may have been easily obtained ‘when the earth was entirely or partially in a state of incandescence.’ (7) The slow cooling of the earth gave abundant opportunity for the ‘long series of intermediary changes,’ whereby the cyanic compounds could ‘follow out to any extent their great tendency to the transposition and formation of polymeria (chains of atoms), and, with the co-operation of oxygen and afterwards of water and salts, to (8) evolve into the self-decomposable albumin which is living matter.’

Now it were difficult to say which of the links in this chain is the most interesting specimen of Monistic logic. In No. (2) the writer contradicts himself; but taking him to mean what we have put into the text rather than that in the note, it is a pure assumption

¹ In the preceding sentence we are told that ‘the cause of the extraordinary instability of the living albumin is its intramolecular oxygen.’ I must leave it to the reader to put the two together (pp. 359–60).

until (3) is proved. The two proofs alleged are indeed noteworthy. For what are the 'decomposition products' of plasm? Are they not the products of decomposing plasm? And is not this dead plasm? So, then, the argument stands: the radical HCN must be in living plasm, because it is in dead plasm. And yet a moment before we are assured that the author of the theory 'sharply distinguishes between living and dead albumin.' Evidently the difference can be a vanishing point when required. As to (3), the synthesis of urea, the inference is no less interesting. That urea, or carbamide, the normal amide of carbonic acid— $\text{CO} \begin{smallmatrix} \text{NH}_2 \\ \text{NH}_2 \end{smallmatrix}$ —can be artificially made from potassium cyanide, certainly deserves note, as being the first synthesis of an organic compound. But to adduce this as proof that the 'living albumin always contains the HCN radical,' is but a conclusion so far in excess of the premisses as simply to exhibit the bias of the writer's mind. If, however, even this double fallacy be waived, what of the next assertion (4), with its alleged supporting analogies? This, that it is equally unproved and unprovable.¹

No one of the alleged analogies will bear a moment's scrutiny. If they would, they do not establish the

¹ Two sentences of Schoeler well apply here (*Probleme*, p. 28, 30): 'Alles das zusammengenommen würde aber bestenfalls bloss beweisen, dass die Cyanverbindungen nur im lebendigen Eiweiss vorkommen können, nicht aber, dass das Leben in ihnen besteht.'—'So kommen wir auch hier mit bloss mechanischen Erklärungsprinzipien nicht durch, und das um so weniger, wenn wir bedenken, dass die organische Evolution in ihrem Verlaufe das wunderbare Phänomen des Bewusstseins zeitigt, dessen geistige Natur weder durch Cyanradikale noch Aldehydverbindungen aufgeklärt werden kann.'

thesis. Whilst as to the 'semi-living molecule,' cyanic acid— HCNO ¹—the more one reflects upon it and its chemical associations, the more hypothetical, not to say impossible, becomes the desperate suggestion that in these science has at last put its finger upon the secret of life. Nor does the dragging in of carburetted hydrogen— CH_4 —and the assumption of 'plenty of time and opportunity' make any more credible the unwarranted assertion that 'the self-decomposable albumin is living matter.' The 'scientific modesty' of such a deliberate affirmation is, however, quite in harmony with another similar utterance: 'My theory of archigony *only assumes* that this chemical process of plasmodomism *developed of itself* at the beginning of organic life.'² 'Only!'

Yet another feature of interest is the reply to the objection that 'the cyanide compounds which were

¹ Cyanic acid is (Morley's *Organic Chemistry*, p. 172) 'a liquid which blisters the skin. It cannot be kept, for even at 0° it changes slowly into cyanuric acid. At higher temperature the change takes place with explosive violence. Cyanic acid dissolves in water, but the solution rapidly decomposes into carbonic acid and ammonia.' This latter quality is one of the 'supporting analogies'; that is to say, living albumin, in the presence of water, also breaks up into carbonic acid and ammonia. But where is the proof that in the latter case there was, before decomposition, nothing beyond the two alleged decomposition products? We know it as to cyanic acid. Do we know it as to living albumin? We do not. It is merely assumed to fit the theory.

² *Wonders*, p. 357. Italics mine. Has modern science discovered anything whatever to contradict Cuvier's plain words? 'Life exercising upon the elements which at every instant form part of the living body, and upon those which it attracts to it, an action *contrary* to that which would be produced without it by the usual chemical affinities, is inconsistent to suppose that it can itself be produced by those affinities.' Assuredly hypothetical 'archigony' by means of HCNO , gives us no solution of Cuvier's problem.

formed in the heat, must have very quickly perished on the subsequent appearance of water.' We are informed that 'the objection has no weight, since we can form no definite idea as to the special conditions of chemical activity in those times.' Whence it appears, that so long as we are accumulating assumptions for the formation of a theory of 'archigony,' we can rely perfectly upon either incandescence, or cooling, or aught else; but as soon as any objection is raised, we do not know what may have happened! And yet it seems that we do know, after all. For 'we can only say that the conditions during this long period were *totally different* from those of chemical action at the surface of the earth to-day.' This is apparently the climax of Monistic logic. For during all the preceding pages devoted to demonstrating, after Pflüger and Verworn, the cyanogen-radical hypothesis, the whole ground of appeal has been the exacter knowledge of to-day's chemical action. Now, it seems, all the present is 'totally different' from the past! Be it so. But what, in that case, is left of Monistic archigony? ¹

¹ Yet one more putting of the case by Professor Schoeler merits quotation (*Probleme*, p. 27): 'Stürzt die Kohlenstofftheorie durch zwei einfache aber unwiderlegliche Überlegungen. Erstens—worauf besonders Fechner hingewiesen hat—giebt es genug festweicher Kohlenstoffgebilde, sogar Eiweisskörper, in denen von keiner Lebenserscheinung die Rede ist, z.B. das tote Eiweiss, wie es im Hühnerei oder in Form von Vitellinen in grosser Menge in den Zellen aufgespeichert ist, ferner Schleim, Talg, Fett u.s.f. Und zweitens fällt dem Spiel der chemischen Kräfte, in welchem das Leben bestehen soll, auch in dem nach dem Absterben der organischen Körper beginnenden Zersetzungsprozesse dieselbe Rolle zu: wo also soll der Unterschied liegen, der im ersten Falle den chemischen Prozess zur Ursache des Lebens, im zweiten zum Kennzeichen des Todes stempelt?'

It is now surely manifest that this hypothesis, which is 'absolutely indispensable' to Monism, is nothing more than speculation. 'It is not ascertained fact,' rightly says Sir Oliver Lodge, but 'brilliant guess-work.' That being so, we are inevitably reminded of the would-be sarcasm with which Haeckel's champion, on another occasion, writes, 'We are defending a gap after all, you see.'¹ In which words how truly, although unintentionally, does he describe the case of Monism's 'archigony.' Most of all when he goes on to say, 'Further, it is not only utterly without scientific warrant, but emphatically contradicted by the conclusions of experts.' Nor can any question possibly be formulated at once more forceful and applicable than his own.² 'Which attitude is the more logical and scientific, and the best accredited by experience—this defence of gaps, or the resolution to admit no aqueosities³ or vitalities'—or 'semi-living molecules'—'or other immaterial entities, until science has given a definite and fully informed decision?' One may thank the author for such a 'wise injunction.' Only we must not, after all, lose sight of his master's definition already quoted: 'These creations of the phronema'—in the present case this is specially true, as a description—'with which we fill the gaps in our knowledge, are

¹ *Haeckel's Critics Answered*, p. 41.

² p. 48.

³ This is a good word, on the advocate's part, to help us to call to mind his master's own phrase (*Wonders*, p. 361), 'a long series of chemical intermediary stages between the incandescent formation of cyanogen and the appearance of the aqueous living plasm.'

called hypotheses when they are in harmony with the empirically established facts, and *myths* when they contradict the facts.' So that, thus far, two things at least emerge out of fog into clear light. Monism is built upon a gap, and the whole structure is a myth.

VII. But, 'archigony' or no 'archigony,' the question has yet to be faced, What is life? The inquiry into the nature of life is part, inalienable part, of the quest concerning its origin. As Professor Henslow says, 'There is a something which sharply separates a mouse from a lump of granite, or an organic molecule from a crystal.'¹ But what is this something? That is the question in regard to which Professor Dolbear, after quoting several of the best-attempted definitions, remarks, 'It will be observed that in all of these what is described is a series of processes, or a body of functions, belonging to certain structures, rather than an entity—a description of what life does, rather than what it is.'² Rightly therefore says Professor Lodge, 'The nature of life is unknown.' But Professor Haeckel goes one better, and adds that there is nothing in life to know.'³ Such a cutting of

¹ *Present-day Rationalism*, p. 67.

² *Matter, Ether, and Motion*, p. 278.

³ 'We regard *the whole* of organic life as, in the ultimate analysis merely a very elaborate chemical process' (*Wonders*, &c. p. 313). Italics mine. Surely, in face of all the facts, this is best described, in one of Mr. McCabe's own phrases, as 'a fantastic and desperate philosophy. Such could not but be Mr. Herbert Spencer's verdict, judging from his own words in *Nature*, 'I have contended that the theory of a vital principle fails, and that a physico-chemical theory of life also fails; the corollary being that in its ultimate nature life is incomprehensible.'

the Gordian knot, however, may be 'a dramatic simplification of the whole controversy,' to quote Mr. McCabe, but it is neither science nor sense. There is much more of both in the conclusion of M. de Quatrefages, 'I make bold to affirm that the deeper science penetrates into the secrets of organization and phenomena, the more does she demonstrate how wide and how profound is the abyss which separates brute matter from living things.'¹

The method of Monism is simple enough, as Sir Oliver Lodge has summarized it (*Hibbert Journal*, January, 1905, p. 32): 'Its speculation is that all these properties'—which distinguish life and mind from 'brute' matter—'are nascent and latent in the material atoms themselves, that these have the potentiality of life, and choice, and consciousness which we perceive in their developed combinations.' But the sentence that follows is incontrovertible: 'As a speculation this is legitimate, but the only answer that can by science legitimately be given at the present time, is the answer given by Du Bois Reymond—*ignoramus*—we do not know.'²

¹ See J. Gerard's *The Old Riddle, and the Newest Answer*, p. 63. Also note the following: 'Überall wo wir es versuchen, tiefer in das Wesen der Natur einzudringen, stellen sich neue Hindernisse in den Weg. Wir erkennen auf Schritt und Tritt, dass die Mittel, deren sich die Natur, bedient, viel verwickelter sind als wir erwartet. Wir glauben einen Schleier zu heben und sehen hundert andere dichtere vor uns: wir wollen ein Rätsel lösen und tausend neue türmen sich vor uns auf. So bin ich auch jetzt, wo ich meine ganze Arbeit überblicke, zu dem traurigen Befunde gekommen, dass für die faktische Erkenntnis nichts dadurch gewonnen ist!'—Albrecht Bethe, quoted by Schoeler, *Probleme*, p. 91.

² And this applies with equal emphasis to the suggestion of Professor Dolbear (*Matter*, &c. p. 283): 'Such phenomena have led some of the

It is confessedly easy to say in textbooks, as Professor Dolbear does :

The discovery of the conservation of energy, covering every field that has been investigated, led to the growing conviction that there are no special forces of any kind needed to explain phenomena. Vital force as an entity has no existence, and all physiological phenomena whatever can be accounted for without going beyond the bounds of physical and chemical science.¹

But both these statements are 'going beyond' all present knowledge. No one is more competent than the eminent physicist above quoted to say—with quite as much authority as attaches to Haeckel's biological utterances—that 'both the conservation of energy and the conservation of matter are doctrines very far from being axiomatic.'² Whilst as to Professor Dolbear's 'all physiological phenomena whatever'—this is not only the very matter under discussion, and therefore not to be assumed, but we shall presently see that it is not true.

Yet even if it were true, it leaves the greater question

most thoughtful and best-informed naturalists to query whether the evidence does not lend much support to the theory that matter itself is alive, and that the difference we observe in things is simply one of degree rather than of kind.' The amount of support such a theory merits is well expressed by Sir Oliver. It is legitimate 'guess-work,' and nothing more. When any writer therefore says, with the usual modesty of Monism (*New Conceptions in Science*, Carl Snyder, p. 270), 'There is no dead matter; in some obscure degree all matter lives,' it is really a juggle with words. For taking life 'in the usual sense of the word,' as Haeckel suggests, the 'matter' that lives is no 'matter' at all. Until vitality—or if Haeckel so prefers, 'unconscious sensation'—is actually translated into terms of motion, 'living matter' is a contradiction in terms.

¹ *Matter*, &c. p. 279.

² *Hibbert Journal*, January, 1905, p. 321.

utterly untouched. For it is the psychological phenomena—in which ‘vitality’ confessedly culminates—far more than the physiological, which are not merely unexplained by mechanism, but absolutely inexplicable. Whatever may be now known, or hereafter discovered, this remains axiomatic, that consciousness—to say nothing of emotion and will—can never be expressed, let alone explained, in terms of motion.¹ As we must return to this, all that need here be pointed out is that even if ‘archigony’ be fully conceded, it does not warrant Haeckelian monism. It would not involve that life is only mechanism. It would not show that the living and the non-living are even chemically, let alone ontologically, identical. It would leave the ‘mystery’ of life as little solved as ever. When, indeed, Professor Haeckel asserts, *suo more*, that ‘most biologists designate by an “organism” an individual thing, the material substratum of which is plasm

¹ Well does Professor Adickes—whose trenchant brochure ought to be carefully read by every student—exclaim (*Kant contra Haeckel*, p. 19): ‘Welche Verwirrung der Begriffe! Die Bewegung eine psychologische Thatsache! Und Empfindungen beobachtet, unmittelbar beobachtet, bei der Zellteilung des befruchteten Eies? Als ob man je etwas anderes sähe als Bewegungen, und als ob Empfindungen (abgesehen von den eignen!) je anders als erschlossen werden könnten!’ And Professor W. Knight’s echo hereof is no less forceful: ‘That life is only movement is an unproved assumption, that vital change is a “mere mode of motion” is an unverified hypothesis. Between the attraction and repulsion of dead atoms, and the evolution of vital structure, “there is a great gulf fixed.” In other words, the atomic theory does not in the least explain how matter evolved life.’—*Aspects of Theism*, pp. 88, 89. To which Lord Kelvin’s avowed forms a fitting conclusion: ‘The only contribution of dynamics to theoretical biology, is absolute negation of automatic commencement or automatic maintenance of life.’—Ward’s *Naturalism*, &c. v. ii. p. 27.

or living substance—a nitrogenous carbon-compound in a semi-fluid condition,'¹ we may equally well challenge it on the ground of fact, or put it aside by reason of its unwarranted assumption. Yet let it suffice now to note that if there be to a living thing, a 'material substratum,' the only reasonable inference is that there is a non-material stratum; which is precisely what we want to get at, seeing that we equally assert it for the living thing and deny it for the 'nitrogenous carbon-compound.'

In modern science it often seems easy to prophesy. Professor Dolbear believes that 'the success that has attended the efforts of chemists in synthetic chemistry' may well enable them 'to assert with confidence that every kind of a combination can be artificially produced,' and that 'one ought not to be surprised any day at the announcement that protoplasm has been formed.' There is, we are further assured, no less ground for believing that when 'the substance protoplasm is formed, it will possess all the qualities of protoplasm, including life.'² But the more carefully one considers the distinctive powers of life, the less easy it becomes to treat such predictions seriously. If only we note those which the same writer himself alleges, it will suffice :

Minute portions of this elementary life-stuff possess all the distinctive fundamental properties that are to be seen in the largest and most complicated living structures. It has the power of assimilation—that is, of organizing dead food into matter like itself—and consequently what is called growth. It possesses contractility—that is, the ability to move in a visible mechanical

¹ *Wonders*, p. 37.

² *Matter*, &c. pp. 283, 370.

way; and it possesses sensitivity—that is, ability to respond to external conditions; and the power of reproduction.¹

Yet this is not all. For, as Professor Haeckel himself well points out, in reference to microscopic structures which do not belong to the plasm, as such, but to the cell body, 'These microscopic structures are not the efficient cause of the life-process, but *products* of it.'² A more significant acknowledgement cannot be quoted.³ It entirely confirms what Sir Oliver Lodge has said, that life is—

Something immaterial and itself fundamental, something which *uses collocations of matter in order to display itself* amid material surroundings, but is otherwise essentially independent of them.

¹ *Matter*, &c. p. 280.

² *Wonders*, p. 133. It is, I think, well worth while in this connexion to quote the words of Professor L. Beale, an acknowledged expert: 'One might observe that living matter *grows*, but does not increase like a crystal, for the stuff of which it is made cannot be detected in the solution around it, nor is the matter deposited, as that of the crystal, particle after particle upon the surface. Neither does living matter produce chemical compounds after the manner of the chemist, for, as has been shown, there is nothing like a laboratory, chemicals, apparatus, or chemist there. It may be childish on my part to attribute movement, growth, formation, and multiplication to some mysterious force, or power, or agency, of the nature of which I know nothing, and to call it vital power because it works in living matter only; but is not anything better than leading people to imagine that you have explained to them the whole matter, when you have really given no explanation at all, and do not yourself understand the thing you have attempted to explain!'—*Protoplasm*, p. 89.

³ So that when Haeckel's champion, with wonted jauntiness, affirms (*Hibbert Journal*, July, 1905, p. 750), 'As far as all intra-human vitality is concerned, there is not a single fact of experience to support this, and the negative evidence is imposing,' he really contradicts, with palpable directness, the very authority he professes to establish. There is manifestly good ground for Sir Oliver's remark (*Hibbert Journal*, October, 1905, p. 182), 'I do not hold Professor

And it is well supplemented by Professor Henslow when he asks :

Can, therefore, alterations of structure, in response to external forces and in adaptation to them, be accounted for solely by means of the physico-chemical process involved in their manufacture? There is no such directivity ever observable, I repeat, in the mineral kingdom.¹

Hence we are well warranted in putting all possible emphasis upon the plain avowal of Professor Huxley, in the *Encyclopaedia Britannica*, that 'the properties of living matter distinguish it absolutely from all other kinds of things, and the present state of knowledge furnishes us with no link between the living and the non-living.'² It is, moreover, Professor Dolbear himself who informs us that whilst 'albuminoid substances have been artificially made, they showed no vital qualities,' and that 'chemistry alone cannot give us any substance which can give characteristic vital actions.'³ These

Haeckel responsible for these utterances of his disciple; he must surely know better.' The sentence above cited shows that he did know better. But it also shows that Paulsen is justified when he remarks, 'Die Seele ist dann die bildende "Lebenskraft," und es ist gar nicht abzusehen warum Haeckel die Neovitalisten so hart anlässt; er ist ja selbst Vitalist, denn was ist die Zellseele die durch unbewusste Vorstellung den Leib baut, anders als die alte Lebenskraft?' (*Phil. Milit.*, p. 142). Professor Adickes too comments upon 'Haeckel's Kryptovitalismus (*Kant contra Haeckel*, p. 72); and Schoeler, carrying out his suggestion to the uttermost, says, 'So werden wir zu der Auffassung gedrängt dass die physische Entwicklung nicht die Ursache, sondern vielmehr die Wirkung, der psychischen Entwicklung ist' (*Probleme*, p. 79).

¹ *Present-day Rationalism*, p. 63.

² Article, 'Biology.'

³ *Matter*, &c. p. 370.

characteristic vital actions are clearly stated by Dr. Dallinger:

Protoplasm is fundamentally distinguished from albumen or any other form of dead matter by two attributes which, as being peculiar to living substances, are designated vital: (1) its power of increase by assimilating (that is, converting into the likeness of itself and endowing with its own properties) nutrient material obtained from without; (2) its power of spontaneous movement, which shows itself in an extraordinary variety of actions, sometimes slow and progressive, sometimes rapid, sometimes wavelike and continuous, and sometimes rhythmical with regular intervals of rest.¹

Dr. A. R. Wallace's avowal hereupon has been often quoted, and by some much derided. But it has yet to be shown that in the knowledge of chemistry and the study of nature, he is one whit less worthy of regard than Professor Haeckel. If his words are weighty when they support the Darwinism which in turn supports Monism, so are they when they testify otherwise.

The first stage is the change from inorganic to organic, when the earliest vegetable cell, or the living protoplasm out of which it arose, first appeared. This is often imputed to a mere increase of complexity of chemical compounds; but increase of complexity with consequent instability, even if we admit that it may have produced protoplasm as a chemical compound, *could certainly not have produced living protoplasm*—protoplasm which has the power of growth and reproduction, and of that continuous process of development which has resulted in the marvellous variety and complex organization of the whole vegetable kingdom. There is in all this something quite beyond and apart from chemical changes, however complex, and it has been well said that the first vegetable cell was a new thing in the world, possessing altogether new powers. Here, then, we have indications of a new power at work, which we may term 'vitality,' since it gives to certain

¹ *The Microscope*, &c, p. 461.

forms of matter, all those characters and properties which constitute life. . . . The next stage is still more marvellous, still more completely beyond all possibility of explanation by matter, its laws and forces. It is the introduction of sensation, or consciousness, constituting the fundamental distinction between the animal and vegetable kingdoms.¹

It may be, as Professor Dolbear alleges, that 'vital force, as an entity, has no advocates in the present generation of biologists. The term has completely disappeared from science, and is only to be found in historical works.'² But even according to his own showing, that does not end the matter. The word may go, but the thing remains, for it is an utterly unwarranted assumption to hint that life has now been 'identified' with mechanism. Professor Henslow is most fully justified in his remark that 'the term "vital force" may be objectionable or not, but some name is wanted to account for the directivity observable in every organ of every living being.'³ Even if there be a scientific resolution that the power which, as Haeckel acknowledges, produces microscopic structures, shall be nameless, assuredly there ensues no right to assume that its mystery is solved. Nor has the whole harangue contained in *The Riddle and Wonders*, together with the

¹ *Darwinism*, p. 474. Mr. McCabe makes much effort to be sarcastic over my remark that Haeckel's attitude herein was answered, 'by anticipation,' in *The British Weekly* and my book—'in an obscure corner of an obscure book.' Presumably every book that this writer does not know is 'obscure'; but the fact remains that I called especial attention to Dr. Wallace's position, and not only is Haeckel's 'archigony' fully anticipated in the above extract, but it was written not less than ten years before *The Riddle* appeared.

² *Matter*, &c. p. 279.

³ *Present-day Rationalism*, p. 67.

brochure championing them, lessened that mystery in the least.¹

Hence such a judgement as that of Captain F. W. Hutton, F.R.S., is by no means, in the name of modern science, to be dismissed with a Haeckelian sneer or a McCabean gibe. It is founded upon all we know, even to this hour.

That an unstable chemical compound endowed with the power of direct energy, independent of any outside agent, should have

¹ On the contrary we have another illustration of what is considered to be 'scrupulous honesty' by the writer who accuses theologians, without distinction, of dishonesty. In *The Hibbert Journal* for October, 1905, Sir Oliver Lodge selects two sentences of Mr. McCabe's for special comment. (1) 'Sir Oliver seems to admit, indeed, that the vital force is not in its nature distinct from physical force, but holds that it needs guidance.' Upon which the eminent physicist remarks that he has 'never taught nor for a moment thought' so. 'The phrase sounds to me nonsense.' So much for one of the champion's representations. Now for the other. (2) 'On all sides we hear the echo of Professor Le Conte's words: "Vital force may now be regarded as so much force withdrawn from the general fund of chemical and physical forces."' What can the ordinary reader infer from this but that Le Conte utterly abjures the notion of a 'vital' force or principle, as distinct from physical. Yet what are Le Conte's own words? These: 'I know that it is the fashion to ridicule the use of the terms vitality, vital force, as a remnant of an old superstition, and yet the same men who do so use the terms gravity, electricity, and chemical force, &c. Vital force is indeed correlated with other forces of Nature, but is none the less a distinct form of force, far more distinct than any other, unless it be the still higher form of psychic, and therefore it better deserves a distinct name than any lower form. Each form of force gives rise to a peculiar group of phenomena, and the study of these to a special department of science. Now the group of phenomena called vital is more peculiar, more different from other groups than these are from each other, and the science of physiology is a more distinct department than either physics or chemistry, and therefore the form of force which determines these phenomena is more distinct, and better entitled to a name, than any other physical or chemical force.'—*Evolution and Religious Thought*, p. 299. As to what really is, under these circumstances, 'seriously misleading,' the reader must judge for himself.

been brought into existence by the action of known physical laws is an impossibility. The processes of assimilation and fission, on which all progress depends, are quite distinct from anything that had gone before. And as every living cell is imbued with what we call instinct, which directs its energies, it follows that in physiology action and reaction are not equal and opposite. Life appears to consist in the power of directing the movements of protoplasm. It is impossible for us to understand how these movements can be controlled without the application of physical force, and yet life cannot be a form of physical force, because it disappears altogether at death. Perhaps life might be defined as the action of mind on protoplasm. Until some explanation can be given it is not only permissible but reasonable to view the origin of life as due to some guiding action outside of natural law; especially when we remember what that break in continuity has led to.¹

So long as it is understood that pure speculation only is intended, it may be permitted to repeat Professor Tyndall's suggestion in his famous Belfast address. But it is equally open to another man of science, quite his compeer in physics, to say—and from the same lofty platform:

An eminent predecessor in this chair has declared that by an intellectual necessity he crossed the boundaries of experimental science, and discovered 'in that matter which we in our ignorance of its latent powers, and notwithstanding our professed reverence for its Creator, have hitherto covered with opprobrium, the potency and promise of all terrestrial life.' I should prefer to reverse the apothegm, and to say that in life I see the promise and potency of all forms of matter.²

Does any one ask, What if life should be synthesized to-morrow, as Professor Dolbear suggests? The

¹ *The Lesson of Evolution*, p. 32. See also *Hibbert Journal*, October, 1905, where (p. 183) he justifies Professor Lodge's criticism of Haeckel against Mr. McCabe's censure.

² Sir William Crookes, British Association Presidential Address, Bristol, 1898.

answer, so far as Monism is concerned, is simply nothing. It will still be building upon gaps, as the next chapter will further serve to show. It is an absolutely safe prediction that living protoplasm will *never* be synthesized in any chemical laboratory without the guiding mind of the chemist. Whereas Monistic science requires that without any guidance of any kind, protoplasm should synthesize itself from nitrocarbonates or cyanides. When that happens the age of miracles will indeed be upon us. In point of fact the scientific disability of Haeckelian Monism emerges from every phase of the situation. If 'archigony' be untrue, such monism, on its author's own showing, receives its *coup de grâce*.¹ If 'archigony' were shown to be true, the same monism gains nothing until and unless it can be proved that the life which emerged from the non-living was not life—being *only* complex mechanism. What Monism really requires, therefore, is the identification of the living with the non-living.² This being a contradiction in terms, the validity of Monism goes by the board.

Two clear conclusions emerge from the foregoing

¹ 'I entirely agree that to reject abiogenesis is to admit a miracle.'—*Riddle*, p. 91.

² Here Professor Tait's words are explicit (quoted by Mr. Gerard, *The Old Riddle*, &c. p. 65): 'To say that even the very lowest form of life, not to speak of its higher forms, still less of volition and consciousness, can be fully explained on physical principles alone, is simply unscientific. There is absolutely nothing known in physical science which can lend the slightest support to such an idea. To suppose that life, even in its lowest form, is material, involves either a denial of the truth of Newton's laws of motion, or an erroneous use of the term "matter." Both are alike unscientific.'

considerations. So far as 'archigony' is concerned, the science of Monism is manifestly mythical, even according to its author's own definition of the term; for it involves not only filling up a 'gap' with the 'creations of the phronema,' but these 'creations' are entirely 'opposed' to all the empirically established facts.

Yet is this not all. For 'archigony,' still on the author's own showing, never can be demonstrated. No modern investigation can help towards it, nor could any successful synthesis whatever contribute anything towards its credibility; for (1) in the first place 'we can form no definite idea as to the special conditions of chemical activity in those days'¹ in which 'archigony' was Monistically necessary—so that every present experiment of ours would be utterly irrelevant—and (2) 'we can only say that the conditions during this long period [of 'archigony's' incubation] were totally different from those of chemical action at the surface of the earth to-day.' Whence it cannot but follow, that all the synthetical successes of organic chemistry, past, present, or future, in human science, can give us no hint whatever as to what may have taken place in the bygone ages of the terrestrial cooling from incandescence. But, apart from other 'gaps,' so long as 'archigony' remains thus not only undemonstrated but undemonstrable, the Monism to which it is 'indispensable' also remains 'guess-work,' and nothing more. Its philosophy is an incoherent patchwork, best

¹ *Wonders*, p. 362.

described in its author's own terms: 'These forms of faith have no theoretical value for philosophy if they contradict scientific truth.'¹ Whilst in regard to science, and the origin of life, we are only employing Professor Haeckel's own suggestion and terminology when we aver that Monism is not even scientific 'hypothesis'; it is 'myth.'

¹ *Wonders*, p. 456.

NOTE

The public have been recently informed in flaring head-lines by some daily papers, that the mystery of life is 'solved' at last, seeing that Mr. W. Burke, at Cambridge, has there made some living organisms out of sterilized bouillon by means of radium salts. I am permitted, on the authority of Professor Sims Woodhead, M.D., &c. (Professor of Pathology, Cambridge University), to say that there is nothing in it worthy of serious notice. It may apparently be classified with Professor Huxley's *Bathybius*, and Mr. Blatchford's bacilli of bacilli (see *Clarion Fallacies*, p. 10 note).

Mr. McCabe's estimate is interesting and characteristic (see *Agnostic Annual*, 1906, pp. 9-13). He ventures to 'forecast that the acceptance of Mr. Burke's conclusions will have no appreciable effect on the dreary controversy we still have to conduct against theologian-scientists. In very deed why should they? seeing that, in his own words, 'the experiments *throw no light* on the original appearance of life on our planet.' Surely this semi-sneer answers itself. Further: The artificially selected conditions of the laboratory have no clear analogy (though a *possible* one) to the condition of nature a hundred million years ago. Until radiobes are evolved out of inorganic matter (instead of beef solutions) we are *no nearer* to a solution of the problem of the first origin of life.' Of course, as Monists, 'we can imagine these cyanic compounds being exposed to radio-activity, or something analogous to it, in the depths of the warm ocean that covered almost the entire globe in those early days. Into the details of the evolution it is *unwise* to go as yet. Indeed, the final settlement may be along *quite different* lines. But in the cyanic theory and the new evidence of the power of radiation, we have the outline of a theory which at least makes it ridiculous to say that science is entirely dumb in face of the problem.'

I submit that from this very special putting of the case, it is still more 'ridiculous' to say that 'the light is gradually breaking,' when these vaunted experiments 'throw no light' at all 'on the obscure problem.' It is, indeed, 'unwise' to go into the 'details of the' cyanic 'evolution.' It would be decidedly more wise, we may suggest, to be 'entirely dumb' thereupon. But how thankful Monism is for small contributions, even though purely imaginary, may be gauged from the italics. There is, it seems, a '*possible*' analogy: it is '*unwise*' to say more: the '*settlement*' may be '*quite different*'! Truly, 'archigony' is hard pressed for witnesses. We wait for the 'emergence' of 'radiobes' out of 'inorganic matter.'

IV

**THE HUMAN MIND—ITS NATURE AND
ORIGIN**

'But though organic nature has been produced, nature is not yet; before she can be a further step must be taken forward into Mind. But this last, the most inexorable step of all, is the most completely beyond our rational capacity. For there is nothing that physiology has been so little able to do as to discover the relation between organization and consciousness. As Tyndall once said, a man can as little prove any causal relation between these two as he can lift himself by his own waistband. The phenomena may be parallel, but they do not stand respectively in the relations of cause and effect. We are left, then, with a natural process that leaves, as regards explanation, the main thing precisely where it was found. Mind, in its action and its origin, is a great enigma. How it emerges is as insoluble a mystery as what it has achieved. But one thing seems evident, that it can be got out of nature only by being deposited in nature; that what constitutes nature has constructed nature; that what makes her capable of interpretation is one with the condition that makes the process of knowledge real and actual.'

FAIRBAIRN, *Philosophy of the Christian Religion*, p. 55.

'Every physiologist and every psychologist knows that the movement of the atom of brain-tissue and the phenomena of consciousness are correlated. They act and inter-act; but the emergence of the latter out of a group of the former has never been proved, and the process cannot be shown to be a probable one by any kind of experiment. To account for the evolution of organic nature, then, we must transcend its forces; we must pass beyond its protean energy to something else, which at once determines and differentiates it.'

KNIGHT's *Aspects of Theism*, p. 83.

'Der Naturwissenschaftler als solcher steht der Innenseite der Welt ebenso verständnis- und hilflos gegenüber wie ein Eskimo, den man in ein Telegraphenbureau führt: der hört zwar das Klappern der Instrumente, sieht wie auf dem Papier Zeichen sich eingraben; aber damit ist der Vorgang auch für ihn erschöpft. Dass ein tiefer Sinn in diesen Zeichen liegt, weiss er nicht und kann er nicht wissen.'

ADICKES, *Kant contra Haeckel*, p. 64.

Wären alle Rätsel der Gehirnanatomie und -physiologie gelöst, könnte man dem kindlichen Gehirn sein Horoskop stellen und jede Bewegung darin bis zum späten Tod des Greises berechnen; das Rätsel der Empfindung bliebe dasselbe wie zuvor, auch nicht um einen Schritt wäre man seiner Lösung näher gerückt. Und nichts in den Nervenbewegungen verriete, dass noch etwas Anderes da ist, als blosse Bewegung.'

ADICKES, *Kant contra Haeckel*, p. 31.

IV

THE HUMAN MIND—ITS NATURE AND ORIGIN

It must be definitely understood that we do not here lightly undertake to fathom the ocean which so many have for ages sought to explore. Our task is only to estimate the most recent and popular assertions in this realm, which have been with such consummate 'modesty' shouted in the popular ear. For the genuine student such an effort is confessedly unnecessary. He cannot but perceive, as he examines the works in question, that they are a perfect tissue of assumptions, dogmatisms, and self-contradictions, made forceful by the unmitigated self-confidence and interwoven sneers. In this sense alone, the proud boast of the translator is true, that 'the work is unanswered because it is unanswerable.' Any one fairly acquainted with the limitations as well as the progress of science, or at all informed in the history of philosophy, will know what to think of the modern teachers and teaching which at the very outset meekly assert that 'most of the psychological literature of the day is so much waste paper.'¹ No little self-restraint is required to suppress the sarcasm of

¹ *Riddle*, p. 34.

the ancient sufferer (Job xii. 2), for if it were ever truly applicable, it is surely here. At least such a protest as the following, from one acknowledged to be amongst the first of living physicists, is both true and timely :

Those who think that reality is limited to its terrestrial manifestations doubtless have a philosophy of their own, to which they are entitled, and to which, at any rate, they are welcome ; but if they set up to teach others that monism signifies a limitation of mind to the potentialities of matter as at present known ; if they teach a pantheism which identifies God with nature in this narrow sense ; if they hold that mind and what they call matter are so intimately connected that no transcendence is possible ; that without the cerebral hemispheres, consciousness and intelligence and emotion and love and art, and all the higher attributes towards which humanity is dimly groping, would cease to be ; that the term 'soul' signifies a sum of plasma-movements in the ganglion cells ; and that the term is limited to the operation of a known evolutionary process, and can be represented as 'the infinite sum of all natural forces, the sum of all atomic forces and all other vibrations'—to quote Professor Haeckel (*Confession of Faith*, p. 78)—then such philosophers must be content with an audience of uneducated persons ; or if writing as men of science, must hold themselves liable to be opposed by other men of science who are able, at any rate in their own judgement, to take a wider survey of existence, and to perceive possibilities to which the said narrow and over-definite philosophers were blind.¹

Any scheme or system may be 'unanswerable,' not because it is so true, but because it is so false. And in such case the sincerity of the author no more avails to justify it than the sincere avowal of a man who is colour-blind proves that red is green ; or the sincere assurance of one devoid of musical ear demonstrates that harmony is a delusion. Speaking generally—and not contemptuously—the majority of those

¹ Sir Oliver Lodge, *Hibbert Journal*, January, 1905, p. 327.

who have devoured Haeckel's *Riddle* in its cheap form, are to be classed amongst the 'uneducated' for whom boldness of assertion, plausibility of statement, authoritativeness of diction, and persevering reiteration, constitute the most effective method of appeal.¹ There is, therefore, nothing for it but an equally plain and vigorous statement of the other side. We will consider, then, (1) the main contentions of Haeckelian monism in regard to the nature and origin of the human mind; (2) its illustration from *The Riddle of the Universe*; (3) its confirmation in *Wonders of Life*; (4) its defence by Mr. McCabe; and (5) a general summary of the present position.

I. If we allow the acute translator of Haeckel to express the 'chief merit' of *The Riddle*, it

lies in its masterly treatment of the question of the evolution of mind. The case for the evolution of mind has been placed on the same experimental base as the theory of the evolution of the body. Distinction has no longer the semblance of reason. From the lowest kingdom of protists to the phenomena of human intelligence, we pass with tolerable ease. The few lacunae in our evidence are insignificant, beside the broad overpowering tendency of their cumulative force. Thus one of the most important contributions to the science or philosophy of human life, with its myriad problems, has been for ever established.²

A better example of the characteristics of the

¹ As a specimen of combined modesty and logic, we must not forget Mr. McCabe's assertion (*Haeckel's Critics Answered*, p. 91) that he knows the Roman Catholic clergy to have had 'more definite philosophical instruction than their Protestant colleagues,' but that he also knows that 'tens of thousands of working and lower middle-class readers who so largely purchase sixpenny editions, can read Haeckel more intelligently than the majority of the Catholic clergy.' The intended inference, of course, is that Protestant Christian teachers are the most unintelligent of all.

² Preface, p. xii.

popular advocacy just mentioned it would indeed be difficult to find. The philosophic worth of this special pleading will become manifest as we proceed. Meanwhile, we are bound to ask, What does this 'established case for the evolution of mind' involve? Plainly enough such assertions as these: that consciousness is nothing but a function of the brain; that it emerges directly from unconsciousness; that 'mind' and 'soul' are nothing but collective ideas of the functions of the phronema. Whilst 'sensation' and 'will,' as experienced by human beings, are nothing whatever beyond a higher degree of what—for the convenience of Monism—are to be assumed in the ultimate atoms from which everything has been necessarily derived.

Now the mere statement of such a thesis, would seem sufficient for any person of fair education and thoughtful disposition. It is small wonder—with all deference to the combined indignation of the author and his translator—that experts, both on the Continent and in this country, should have expressed with emphasis their disavowal of such teaching in the name of modern science and philosophy. The trenchant protests of Professors Paulsen, Adickes, Schoeler, Dennert, &c., are unfortunately unknown in English. But they are none the less real and effective.¹

¹ Thus Professor Paulsen, quite as eminent an expert in philosophy as Professor Haeckel in biology, writes: 'Ich habe mit brennender Scham dieses Buch gelesen, mit Scham über den Stand der allgemeinen Bildung und der philosophischen Bildung unseres Volks. Dass ein solches Buch möglich war, dass es geschrieben, gedruckt, gekauft, gelesen, bewundert, geglaubt werden könnte bei dem Volk, das einen Kant, einen Goethe, einen Schopenhauer besitzt, das ist schmerzlich.'—*Philosophia Militans*, p. 187.

In the booklet, however, which holds up to unmeasured contempt those who in this country have dared to oppose the dogmas from Jena, we are told that—

Critics very stupidly or very wilfully represent Haeckel as saying that thought is a movement of the molecules of the brain, just as they say he resolves all things into matter. They ignore the fact that he lays as much, if not more, stress on force than on matter. He holds, of course, that there is fundamentally only one reality, but it is most improper to call that by the name of one of its attributes [extension].¹

When we come to consider this 'one reality' we shall find some items of the Monistic philosophy which are still more 'improper.' Meanwhile, let us put this chivalrous protest by the side of the Professor's own utterances. Thus in *The Riddle* we read, 'In any case the ontogeny of consciousness makes it perfectly clear that it is not an "immaterial entity," but a physiological function of the brain, and that it is, consequently, no exception to the general law of substance.'² Hence 'the sound monistic principle that the human mind is a function of the phronema,'³ and, to make it perfectly clear 'the mind also is merely the collective function of the phronema—the central organ of thought.'⁴ Now, seeing that we are elsewhere assured that 'we must reduce *all* vital phenomena to exclusively physical and chemical processes, to the *mechanics* of the protoplasm,'⁵ we are compelled to ask, If thought is not a 'movement of the molecules of the brain,'

¹ *Haeckel's Critics Answered*, p. 63.

⁴ *Wonders*, p. 347.

² p. 66.

⁵ *Riddle*, p. 50.

³ *Wonders*, p. 343.

what is it? But 'more stress,' we are told, is laid 'on force than on matter.' Wherein, then, does 'force,' as expressed in molecular motion, give us anything other than 'movement'? If the mind is 'nothing more than the function of psychoplasm,'¹ and the 'pyschoplasm' is nothing more than 'cerebral' matter in motion (physical or chemical), what is 'mind' more than 'movement'?

Perhaps an interesting variety of definitions may help our perplexity. 'Mind,' says our author, is 'that *part of the life of the soul which is connected with consciousness and thought.*'² One would have thought that a philosopher would have given us a little more information here about the connexion. But we are also informed that 'soul' is 'merely a *collective idea* of all the psychic functions of protoplasm.'³ So that the 'soul' is 'merely a physiological abstraction like assimilation or generation.' Further, it is but 'a potential function of the plasm.'⁴ So that, fitting these latter definitions into their proper place in the former, we are brought to what the Monistic champion styles 'this very clear and scientific reasoning.'⁵ 'In the human brain, on physical principles, we must expect a manifestation of force vastly different from all that we find elsewhere. We find mind.' Then the writer insists, with caustic emphasis, that 'vastly' different does not mean 'specifically' different. So

¹ *Riddle*, p. 39.

² *Wonders*, p. 328.

³ *Riddle*, p. 39.

⁴ *Wonders*, p. 328.

⁵ *Haeckel's Critics Answered*, p. 55.

that the 'manifestation of force' is still necessarily physical, that is, mechanical—and yet is not movement! What, then, do we find, when 'we find mind'? According to the above definitions, we find 'that part of the life of the collective idea—or physiological abstraction—of all the psychic functions of protoplasm which is connected with consciousness.' The ordinary reader will wonder what the 'life of an idea' is, and, still more, which 'part' of it merits the appellation of 'mind.'¹

Now Professor Stout, whom Mr. McCabe recommends us to read, says that 'to explain, is to exhibit a fact as the resultant of its factors.'² Well, the fact of mind is sufficiently manifest in the literature of the world, to say nothing of social intercourse. Are we to regard it as explained by the above?

The average man, of fair intelligence and education, will naturally ask, in regard to this vaunted 'evolution of mind,' how consciousness can arise with no breach of continuity from the unconscious;³ how thought can spring spontaneously from non-

¹ Here Professor Paulsen's words irresistibly suggest themselves: Ich bitte den Leser um Verzeihung, das ich in dieser Breite ihm dies zu lesen vorsetze: aber ich musste Haeckel selbst reden lassen, um von dem Mass von Verwirrung, das in seinen Gedanken herrscht, eine Vorstellung zu geben. Man faast sich an den Kopf: was meint er denn?

² 'Die variierende Wiederholung dieser sinnlosen Verbindung von Wörtern macht ihren Inhalt nicht vorstellbarer.'—*Philosophia Militans*, pp. 158, 139.

³ *Manual of Psychology*, p. 46.

⁴ This Mr. McCabe affects to treat as a trifle. On p. 58 we read: But you cannot derive the conscious from the unconscious, say several critics. The objection is childish.' That should settle the matter. But

thinking matter; how matter or motion, or both combined, can give rise to that which is neither motion nor matter. But he will find that to all such queries Haeckel's monism will supply only the mockery of an answer. He will obtain no account of the essence of consciousness; no explanation of its origin; no notice, let alone explanation, of the unity of consciousness in personality; and, in the comparison of the human mind with that of animals, the dogma that there is only a difference of degree, not kind, supported by nothing but plentiful

after this magisterial dismissal, he condescends to enlighten our weak minds as follows: 'If we are to explain anything, as Sir A. Rücker said, we cannot explain it in terms of itself; the conscious *must* be derived from the unconscious. And as a fact Mr. Mallock points out, you do get consciousness out of the unconscious every day—in the growth of the infant; or, as Lloyd Morgan puts it, in the development of the chicken from the egg.' Now, to begin with, the uninformed reader would think from this that both Professors Rücker and Morgan were convinced Monists. We shall see in due course that they are nothing of the kind, but distinctly the opposite. Then note once again the Monistic jugglery. We cannot explain the conscious in terms of the conscious, therefore 'the conscious *must* be *derived* from the unconscious.' Now here are two tacit affirmations. First, the conscious *can* be derived from the unconscious; which is the very matter under dispute. Secondly, it can *only* be derived from the unconscious; that is to say, there is in the whole universe nothing but unconscious matter and force from which it could be 'derived'; which again begs the whole question in hand. To attempt to clinch this with a 'must' is to fling science to the winds. Do the suggested illustrations warrant this tall talk? They do just the opposite. For both of them—infant and chicken alike—receive the potentiality of their growing consciousness by direct heredity from the parental consciousness. In other words, these pseudo-similes are evasions and not illustrations at all. What should be both proved and illustrated is best expressed in Professor Lloyd Morgan's own words: 'I here protest against the erroneous view that *out of matter and energy* consciousness and thought can be produced by any conceivable evolutionary process' (*The Contemporary Review*, June, 1904, p. 784).

assertion and hypothesis. Now, if one intelligent person should ask another what the faculty of sight is, as possessed by human beings, would it be accepted as an answer and an explanation, to draw up a long list of reasons for believing that it has developed from an original infolding of a portion of the epidermis?¹ If such an answer would be deemed a mere evasion, what else can be said of the 'case' for the evolution of mind which is now said in the name of Monism to be 'for ever established'? For what is this alleged 'establishment' when fairly scrutinized? First, we have the acknowledgement that consciousness is the 'central mystery of psychology,'² which every tyro knows. Then, that 'of all wonders of life, consciousness may be said to be the greatest and most astounding,'³ which sounds modest enough, but is somewhat difficult to reconcile with bald assertions elsewhere that 'the

¹ Professor Schoeler sums up the case admirably: 'Was Bewusstsein ist und wie es zustande kommt, wollen wir wissen'—that is the question! 'Schlägt man hierüber die naturwissenschaftlichen speziell entwicklungsgeschichtlichen und monistischen Werke nach, so findet man eingehende Untersuchungen und Erörterungen über Psychoplasma und Atomseelen, über Zellseelen und Seelenzellen, psychophysiologische Protistenstudien und Beobachtungen über die Stufenfolge der Seelenentwicklung im Tierreiche, die, für sich betrachtet, geistvoll und interessant sind. Aber nicht das wollen wir wissen. Nicht ob Bewusstsein auf dieser oder jener Stufe vor handen sei oder nicht, und wie es in der aufsteigenden Skala der animalischen Evolution an Intensität zunimmt: sondern *worin* das Wesen desselben besteht, *wodurch* sich ein bewusstes von einem unbewussten Zustande unterscheidet, und *wie es möglich* ist, wenn das Bewusstsein eine physiologische Funktion des Gehirns ist, dass eine solche zur Produktion einer immateriellen Vorstellungswelt führen kann?'—*Probleme*, p. 93.

² *Biddle*, p. 61.

³ *Wonders*, p. 24.

neurological problem of consciousness is but a particular aspect of the all-pervading cosmological problem of substance'¹; that 'consciousness itself is only a special form of nervous energy'²; and that 'in any case the ontogenesis of consciousness makes it perfectly clear that it is not an immaterial entity, but a physiological function of the brain, and that it is consequently no exception to the general law of substance.'³ If we venture further to inquire how this is all so 'perfectly clear,' in spite of the avowed mystery, we are promptly informed that it is nothing but a case of continuous development from a suitable germ. It turns out—conveniently for Monism—that the original atoms from which ultimately everything is mechanically derived,⁴ are already 'endowed with'⁵ sensation, memory, will, and soul. Hence nothing more is needed, than that these should be 'mechanically' extended by 'necessity.' Thus we are informed that—

The two fundamental forms of substance, ponderable matter and ether, are not dead, and only moved by extrinsic force, but they are endowed with sensation and will (though naturally of the lowest grade); they experience an inclination for condensation, a dislike of strain; they strive after the one, and struggle against

¹ *Riddle*, p. 65.

² *Wonders*, p. 464.

³ *Riddle*, p. 66.

⁴ cf. *Confession of Faith*, p. 19: 'Monism strives to carry back all phenomena, without exception, to the mechanism of the atom.' From which, of course, it is 'perfectly clear' that we may pass 'with tolerable ease,' by means of a due admixture of necessity and chance, without mind, to everything, 'without exception,' that is human.

⁵ The phrase is that of Professor Turner, quoted with eulogy by Mr. McCabe, *Haeckel's Critics Answered*, p. 58. It is certainly suggestive.

the other. Every shade of inclination, from complete indifference to the fiercest passion, is exemplified in the chemical relation of the various elements towards each other, just as we find in the psychology of man, and especially in the life of the sexes.¹

Well indeed, on reading this, may Professor Paulsen exclaim, 'Man fasst sich an den Kopf.' For, to say nothing of the fact that we are elsewhere assured that protoplasm is everywhere the physical basis of life, as psychoplasm is of mind, here we are confronted with that which is neither protoplasmic nor yet 'dead,' neither psychoplasmic nor mental. The author is, moreover, at great pains to state explicitly that he conceives 'the elementary psychic qualities of sensation and will, which may be attributed to atoms, to be *unconscious*—just as unconscious as the elementary memory,' which is to be considered 'a common function of all organized matter.'² Thus 'the greatest and most fatal error committed by modern physiology was the admission of the baseless dogma that all sensation must be accompanied by consciousness.'³

So, in order to provide a 'sound monistic basis' for the evolution of the human mind, we have to assume unconscious sensation, unconscious will, unconscious memory. Of a truth, no remark here can possibly be so appropriate as the author's own in almost the next sentence: 'It is extraordinary that even distinguished monistic physiologists suffer themselves to be taken in with this sort of metaphysical jugglery'—for what else can such suggestion be,

¹ *Riddle*, pp. 78, 80.

² p. 64.

³ *Wonders*, p. 300.

either on lines of common sense or of exact psychology? If we distrust the former, and turn to the latter, we may surely accept the findings of the manual which is recommended in Haeckel's own latest volume. But Professor Stout assures us that 'sensations, as such, therefore, are psychical states.'¹ Now, it is the special assertion of the Monistic philosophy that psychical states are impossible without psychoplasm. Indeed, they *are* nothing but the 'function of psychoplasm.' Where, then, may we not ask, is the psychoplasm of the ultimate atom? As to 'unconscious will,' if there be will at all, the only possible exercise of it is in a volition. What, then, is a volition? Says the same high authority, 'Thus we may define a volition as a desire, qualified and defined by the judgement that, so far as in us lies, we shall bring about the attainment of the desired end because we desire it.'² Is this, then, a true picture of the 'inclination' experienced by 'the two fundamental forms of substance?' Is it of any avail, in order to save the situation from its manifest absurdity, to interpolate the clause 'though naturally of the lowest grade?' Are not sensation and will both ultimately matters of quality, not quantity? The lowest grade of 'will' is still 'will.' Even the Monist cannot be allowed to juggle with words unchecked. If the 'will' predicated of the fundamental forms of substance, be not of sufficient grade to be accounted 'will' psychologically, how can it be 'will' at all? On the other hand, if it be 'will,'—such will as to

¹ *Manual of Psychology*, p. 134.

² p. 607.

involve 'volition'—no verbal shuffle about degree can avail to ward off the demand for its psychological analysis.

Equally irrational, again, is the assumption concerning sensation. 'Unconscious sensation' is as unthinkable and absurd as is the marvellous statement, psychologically considered, that 'we define the difference in a general way by saying that *sensation perceives* the different qualities of the stimuli, and feeling only the quantity.'¹ 'Sensation perceives'! Truly this subtle investiture of 'sensation' with the percipient faculty, which belongs—and belongs alone—to personality, is a clever device of the Monistic philosophy, but it is none the less philosophically absurd. It is, as hinted above, on a par with the avowal that 'the four great thought centres in the bed of the brain *produce* thought and consciousness.'² Then as to 'unconscious memory'—is it any more sensible or scientific? Again let the psychological authority appealed to decide. Says Professor Stout: 'Sometimes the word "memory" is used as synonymous with retentiveness in general. This application of the term is inconveniently wide.'³ But that which is inconvenient for genuine psychology is convenient for monism of Haeckel's type. Whereas every child knows the difference between the retentiveness of

¹ *Wonders*, p. 308; v. also p. 64 above.

² *Riddle*, p. 65. It will be interesting here to note how the disciple, in his eagerness to defend his master, finds it necessary to contradict him. 'Haeckel does not hold that the brain produces the mind.' If 'thought' does not constitute 'mind,' what does? Which of these contradictories constitutes Monism?

³ *Manual*, p. 453.

the dough into which it pokes its finger when the pies are being made, and the memory through which—having been forbidden by mother so to do—it gets a guilty conscience. The truth is that here, as elsewhere, Monism needs the special name to juggle with. The facts of the case amount to retentiveness—which no one acquainted with them denies. 'That unconscious memory is a universal and very important function of all plastidules,' involves this and nothing more. And this is equally true concerning 'the unconscious memory of tissues.'¹ For even Monism has not as yet asserted the consciousness of tissues. But see what the next stage of this pseudo-evolution of mind sets forth:

In most of the animals all memory is unconscious. Moreover, even in man, and the higher animals to whom we must ascribe consciousness, the daily acts of unconscious memory are much more numerous than those of the conscious faculty.

Here we perceive that somewhere, we are not told precisely where—though that is just what we wish to know—somewhere between the lower and the higher animals, consciousness—which, in the 'memory' of man at least, necessarily involves self-consciousness—is neatly slipped in, reminding us once again of the juggler's art; whilst 'memory' is now divided into two phases, conscious and unconscious. The latter has somehow developed into the former—that is to say, physical retentiveness has conveniently become psychological consciousness, this has blossomed into full self-consciousness, and so has

¹ *Riddle*, p. 43.

become genuine 'memory.' But, with all diffidence, we must be permitted to ask when, and where, and how, was this 'central mystery of psychology' thus happily discovered? And Haeckel's monism is as mute as matter hereupon. True, it *must have* absolute 'continuity' to maintain its 'system'; but, not being able to trace it, the next best thing is done. It is assumed. It is but one of 'the few lacunae' which, the English advocate assures us, are as nothing compared with what we know. The assertion is just as true as to say that the 'lacuna' between the two ends of an incomplete electric circuit, is 'insignificant' compared with the many yards or miles of complete conduction. The question is, Can this 'gap' be bridged, either scientifically or actually? ¹ Upon which some of those best qualified to give judgement, shall presently speak.

Here it is only necessary to point out plainly what is so conveniently and significantly omitted in this pseudo-philosophy. Just two things are picked up, as trifles, in the course of Monistic development—even as in passing along the street one might pick out a couple of the best diamonds, without payment or apology, from some jeweller's window. Whether he would regard them as trifles can best

¹ The student will appreciate the putting of the case by Professor Schoeler: '*Dies ist der wunde und tote Punkt, über den der Monismus nicht hinaus kann, und an dem er gänzlich scheitert: die Erklärung des geistiges Phänomens des Bewusstseins, nämlich die Frage, wie unsere Geistesthätigkeit aus materiellen und mechanischen Bewegungen zu erklären sei? Denn Bewusstsein ist nicht diese Bewegung, sondern das Wissen von dieser Bewegung: das aber ist ein Geistiges.*'—*Probleme*, p. 93.

be discovered by experience. The unity of consciousness and the power of abstract thought, may, indeed, be matters of no moment to the man in the street, or to the aristocrat engrossed in the vast problems of the Jockey Club; but they have much to do with the truth or falsity of an avowed philosophical system. When Professor Haeckel, in his Preface, assures us that 'my monistic philosophy is sincere,' he manifestly exhibits both of these—viz. the unity of his own conscious personality, and the faculty for abstract conception. But of neither of these does his monism give any valid explanation whatever. There is no conceivable 'continuity' between the real, though inexplicable, retentiveness of plastidules, and the consciousness of Descartes: 'I think, therefore I am.' Whilst to affirm that 'comparative physiology teaches us that the various states of consciousness are *just the same* in the highest placentals as in man,'¹ is one of the numberless wild avowals which could only be made by a Monist who had a 'system' to maintain at almost any cost; for every tyro in psychology knows that the very formation of the concept of 'comparative physiology,' is not only a 'state of consciousness,' but is one in which no 'highest' mammal on earth save man, can be brought to take the slightest share. Nor will any mere mammal be able to appreciate the fact that 'physiology,' *per se*, has nothing whatever to do with 'states of consciousness' at all. The assertion that psychology

¹ *Riddle*, p. 62.

is nothing but a branch of physiology, is just another of the unnumbered assumptions which are indeed 'indispensable for monism,' but are indispensable for nothing else.¹

Du Bois Reymond was well warranted in asking,² 'What is the use of consciousness if mechanics are sufficient? And if atoms have sensation, what is the use of organs of sense? Whilst countless atom souls do not help us to explain the unitary consciousness of the brain.' Certainly one would have thought that a 'system' of philosophy which is to be the hope of humanity, would have laid some stress upon and given some explanation of that personality which is, after all, the greatest reality in the human world. But Haeckelism gives us

¹ Here once more Professor Schoeler's summary is most pertinent (*Probleme*, pp. 94, 95): 'Und endlich—das unfasslichste aller Rätsel: aus den physiologischen Funktionen der zahllosen mikroskopischen Ganglienzellen unseres Gehirns, die ihrerseits zufolge der monistischen Weltanschauung wiederum aus bewusstlosen chemischen Elementar- atomen bestehen sollen, soll sich das Wunder unseres einheitlichen selbst bewussten Geistesleben aufbauen! Glaubt Haeckel dass die *Divina Commedia*, der *Faust*, Beethoven's Neunte Symphonie, oder Laplace's *Mécanique céleste*, und seine eigene grossartige systematische Phylogenie, das Werk amöboider Elementarzellen sei? Er selbst, Verworn und andere haben ja bei den Protozoen nur unbewusste Reflexthätigkeit nachgewiesen: können also die unbewussten Reflex- thätigkeit primitiver Nervenzellen das Wunderwerk menschlichen Tiefsinnes die Vernunftkritik Kant's, zustande bringen?! "Wörter wie Verstand, Liebe, Gerechtigkeit," sagt Karl Jentsch treffend, "verlieren ihren Sinn, sobald wir versuchen das Bewusstsein von ihnen hinwegzudeuten. Woher also stammen diese geistigen Erscheinungen? Sie haben sich entwickelt sagt man uns? Es kann sich aber nichts aus einem Dinge herausentwickeln, was nicht schon vorher drin gesteckt hat."'

² See *Natural Theology and Modern Thought*, by J. H. Kennedy (Hodder & Stoughton), p. 70.

absolutely nothing. We are told, indeed, that there is a 'good deal of obscurity and contradiction about individuality,' and that it is to be cleared up in the chapter upon the 'unities of life.' But when we turn thereto, we are merely told that there are three stages of organic individuality—'the cell, the person or sprout, and the stem or state.'¹ The only further reference to this greatest and most important of all human concerns, is the 'modest' additional avowal that—

We must not be too hard on the metaphysical philosophers when—in complete ignorance of the real facts—they rear the most extraordinary theories in their airy speculations on the principle of individuation. Many metaphysicians, who in their one-sided anthropism make man here also the measure of all things, would assign personal consciousness as the basis of the idea of individuality.²

Here one may well ask, in regard to 'one-sided anthropism'—following the hint of John Stuart Mill³—whether it is not at least as valid and instructive to measure a pig by a man, as a man by a pig. So far as this chapter is concerned, which professes to deal with life's unities, a person is simply a 'sprout,' of which 'the gastrula is the simplest form.' That may be interesting to technical biology, but what we need to understand and appreciate is not the 'simplest form,' nor even its further development, but the true constitution and content of the highest form, as known to every thoughtful man by his own experience. The very word 'per-

¹ *Wonders*, p. 153.

² p. 158.

³ 'It is better to be a man dissatisfied, than a pig satisfied.'

sonality,' however, does not occur in Haeckel's index, nor is there anything more helpful towards the solution of this, unquestionably, the greatest 'riddle' in the universe, beyond the assurance that the writer shares the belief of Max Verworn, 'that none of the protists have a developed self-consciousness.' Has any sensible man ever thought that they had? But we know well that we ourselves have. And we know that a boastful 'system' of philosophy which leaves this problem unsolved, has no manner of right to affirm before the mind-world of to-day that 'only one comprehensive riddle of the universe now remains—the problem of substance.'¹ There is, at least, one other problem, viz. how any man of sincerity, and sense, and science, can make such an utterly unwarranted assertion.

One would have thought that Professor Huxley's plain speech and high authority, would have sufficed to prevent the recrudescence of such philosophical crudity as the above positions indicate. Has anything transpired to weaken the force of what he wrote to one of our leading reviews?

Kraft und Stoff—force and matter—are paraded as the alpha and omega of existence. But all this I heartily disbelieve. It seems to me pretty plain that there is a third thing in the universe, to wit, consciousness, which in the hardness of my heart or head, I cannot see to be matter, or force, or any conceivable modification of either, however intimately the manifestations of the phenomena of consciousness may be connected with the phenomena known as matter and force.²

¹ *Riddle*, p. 134.

² *Fortnightly Review*, December, 1886.

This only confirms what he said previously :

I know nothing whatever, and never hope to know anything, of the steps by which the passage from molecular movement to states of consciousness is effected.¹

We know, too, that Professor Tyndall spoke even more strongly. Has any subsequent discovery made his judgement invalid ?

The passage from the physics of the brain to the corresponding fact of consciousness is inconceivable as a result of mechanics. Granted that a definite molecular action in the brain and a definite thought occur simultaneously : we do not possess the intellectual organ which would enable us to pass, by a process of reasoning, from the one to the other. They appear together, but we do not know why. The materialist is not entitled to say that his molecular groupings and motions explain everything. In reality they explain nothing. The utmost he can affirm is the association of two classes of phenomena, of whose real bond of union he is in absolute ignorance. The problem of the connexion of body and soul is as insoluble in its modern form as it was in the prescientific ages.

When we endeavour to pass by a similar mental process from the phenomena of physics to those of thought, we meet a problem which transcends any conceivable expansion of the powers which we now possess. We may think over the subject again and again, but it eludes all intellectual presentation. We stand at length face to face with the incomprehensible. Casting the term vital force from our vocabulary, let us reduce if we can the visible phenomena of life to mechanical attractions and repulsions. Having thus exhausted physics, and reached its very rim, a mighty mystery still looms beyond us. We have, in fact, made no step towards its solution. And thus it will ever loom. We cannot deduce motion from consciousness or consciousness from motion, as we deduce one motion from another.²

More recently Professor Lloyd Morgan writes to the same effect :

¹ *Contemporary Review*, November, 1871.

² *Fragments of Science*, sixth edition, vol. ii. pp. 86, 393.

We started on the course of our evolutionary career with primordial matter and energy: we have reached a highly elaborated conscious experience. Somewhere in the midst of our course we have to say that consciousness emerges. From what does it emerge? Is this consciousness a special and peculiar form of energy? If so, in accordance with all the canons of the scientific treatment of energy, we ought to be able to assert that, for any given amount of consciousness that appears, a corresponding amount of some other form of energy disappears. But we cannot affirm anything of the sort. I here express a *protest against the erroneous view that out of matter and energy consciousness and thought can be produced by any conceivable evolutionary process.*¹

For such reasons, the conclusion of Dr. Dallinger's Fernley Lecture remains as scientifically unassailable as when it was uttered.

The fact remains that the activities of intellect are inexpressible in terms of matter and motion. Mind only can give origin to mind. Until it is congruous to think that parallel lines can enclose a space, that $2+2=7$, that out of nothing something can come, it will be incongruous, in spite of subtle and ceaseless effort to construct hypotheses by which y shall by its own act change into x , or, in other words, by which mind, with its absolute disparity to matter, shall come forth as an unaided and necessary product of matter as affected by motion.²

Such verdicts, in which common sense confirms the

¹ *Contemporary Review*, June, 1904, pp. 783-4. Italics mine.

² Fernley Lecture, *The Creator and what we may know of the Method of Creation*, p. 83.

To the same effect also writes Professor Paulsen: 'Zwischen physischen oder Bewegungsvorgängen und psychischen oder Bewusstseinsvorgängen ist das Verhältnis von Ursache und Wirkung nicht denkbar; Bewegungen können nur Bewegungen zur Ursache und zur Wirkung haben, nicht aber Bewusstseinsvorgänge. Und umgekehrt: psychische Vorgänge, Empfindung und Strebungen können nur psychische Vorgänge zur Ursache und Wirkung haben, nicht aber physische.'—*Philosophia Militans*, p. 140.

The words of Professor Adickes are no less clear and emphatic: 'Es giebt keinen Kausalzusammenhang, der vom Materiellen zum Psychischen hinüberführte. Bewegte Materie bleibt in alle Ewigkeit

judgement of scientific experts, should suffice. The task of pointing out all the fallacies and contradictions of these works of Professor Haeckel would be wearisome indeed. We will only, therefore, specify a few more instances which will be typical of others omitted. Thus, in *The Confession of Faith*, the affirmation meets us: 'We now know that the light of the flame is a sum of electric vibrations, and the soul a sum of plasma-movements in the ganglion-cells.'¹ Now, manifestly, the validity of this downright assertion depends upon the exactness of the parallel between the 'light of the flame' and 'the soul' of man. But the intelligence of a child is surely sufficient to apprehend that there is no parallel at all. For if the 'soul' of man does not involve consciousness, and indeed self-consciousness, it is no soul. Are we, then, to assume that the light of the flame is self-conscious? Or is not this but one more of the innumerable false analogies which are 'indispensable' to Monism?

With much more both of science and sense has Sir O. Lodge said:—

Brain is truly the organ of mind and consciousness, and to a brainless race these terms, and most other terms, would be meaningless; but no one is at liberty, on the strength of that fact, to assert that the realities underlying our use of those terms have no existence apart from terrestrial brains.²

und überall bewegte Materie. Nie kann sie aus sich heraus Innenzustände hervorbringen, mag ihre Anordnung und Bewegung noch so fein und kompliziert sein. Bewusstsein und Bewegung sind, etwas toto genere verschiedenes. Man kann das Reich der Bewegung nach allen Seiten hin durchstreifen: nirgends trifft man in ihm auf Bewusstsein.'—*Kant contra Haeckel*, p. 31.

¹ p. 113.

² *Hibbert Journal*, January, 1905, p. 325.

But when our author, in the interests of his particular monism, roundly declares¹ that 'most of the psychological literature of the day is so much waste paper,' is not this dogmatism pure and simple? Or is such 'modesty,' to quote his champion, 'only the ordinary way of expression in adult literature'? Verily, literature were in a poor way if such a style were 'ordinary.'

The Principal of Birmingham University is much nearer the truth in his estimate, as here expressed :

My chief objection to Professor Haeckel's literary work is that he is dogmatic on such points as these, and would have people believe that he already knows the answer to a number of questions in the realm of physical nature and of philosophy. He writes in so forcible and positive and determined a fashion from the vantage ground of scientific knowledge, that he exerts an undue influence on the uncultured among his readers, and causes them to fancy that only benighted fools or credulous dupes can really disagree with the historical criticisms, the speculative opinions, and philosophical, or perhaps unphilosophical, conjectures thus powerfully set forth.¹

Yet again, on p. 39 of *The Riddle* we are told that—

At the fifth stage, the highest psychic function, *conscious perception*, is developed by the *mirroring* of the sensations in a central part of the nervous system as we find in man and the higher vertebrates.

And in the later volume this is repeated:

The well-known embryology of the eye teaches us how sight—the perception of images from the external world—has been gradually evolved from the simple sensitiveness to light of the lower animals by the development of a transparent lens. *In the same way* the conscious soul, the internal mirror of the mind's

¹ v. p. 135 above.

² *Hibbert Journal*, October, 1905, p. 183.

must the 'conscious soul' be from the 'mind' in every self-conscious being. But the soul, we have learned above, is 'merely the collective idea of the functions of the phronema.' How a 'collective idea' can be self-conscious we will not here inquire, but what we do wish to know is the meaning or content of 'the mind's own action' as something altogether distinct from 'the functioning of the phronema.' In such a suggestion which is the more conspicuous by its absence, science or sense?

If we glance at the later volume, we soon find that in these respects it is well worthy of its predecessor. Thus we are told that 'consciousness is a secondary psychic function, only found in man and the higher animals, and bound up with the centralization of the nervous system.'¹ Here it will be at once perceived that the 'central mystery of psychology' is completely veiled under the terms 'secondary,' and 'bound up with.' What, then, do these convey? We have seen in *The Riddle* that 'it is perfectly clear' that consciousness 'is not an immaterial entity, but a physiological function of the brain, and no exception to the general law of substance.'² And when we ask how consciousness, reason, thought, can come out of the unconscious molecular motions of the 'phronema,' we are told³ that it is 'as an inner view or mirroring of the action of the phronema.' We are further informed that—

The task of science is to reduce all the biological phenomena to physical and chemical laws. But it can only discharge a part of

¹ *Wonders*, p. 307.

² p. 66.

³ p. 345.

this difficult task, as the phenomena are too complicated and their conditions too little known in detail, to say nothing of the crudeness and imperfectness of our methods of research. Yet, in spite of all this, comparative and phylogenetic physiology convinces us that even the most complicated of our internal excitations, and particularly the mental activity of the brain, depend just as much as the outer stimulations on physical processes, and are equally subject to the law of substance.¹

A completer hash of false logic, prejudiced judgement, unwarranted assertion, confusion of thought, and self-contradiction, it would surely be impossible to find on the pages of any alleged philosophy. The favourite 'law of substance,' it seems, must be maintained at any price, 'in spite of all' that such experts as those above instanced protest to the contrary. It is, we see, acknowledged that 'only a part'—and the truth is, an infinitesimal part—of the 'task' specified is discharged, and yet with the next breath *the whole* is assumed as so completely accomplished, that the very highest reaches of the human mind may now, with the utmost confidence, be declared 'just as much' dependent on physical processes as the most simple and ordinary sensation! To say nothing of the wholesale assumption that physiology, *per se*—psychologists, as we have seen, being dismissed with scorn—is competent to 'convince' us of anything in regard to genuine 'mental activity'! All this, moreover, 'in spite of' of the plain and scientifically warranted protest of the very authority to whom this volume refers us, that 'will and thought are not explicable by such categories as causality, substance,

¹ p. 306.

resemblance, or correspondence; truth and freedom are ultimately topics for the metaphysician.'¹

No doubt, as Sir Oliver Lodge suggests, the writer 'would answer the question whether these—mind, consciousness, affection, art, poetry, religion—had any real existence, other than as a necessary concomitant of a sufficiently complete material aggregate, with a contemptuous negative.' Yet all the most recent science is with the Principal of Birmingham University when he adds, 'but I challenge him to say by what right he gives that answer.'

It is true that Haeckel's champion takes up the challenge, and in the following terms:

He gives it on this plain right, that science always finds these inorganic energies to reappear on the dissolution of life, and has never in a single instance found the slightest reason to suspect (if we make an exception for the moment of psychical research) that the vital force as such has continued to exist. There is no serious scientific demur to Haeckel's assumption of a monism of the physical world, and his identification of vital force with ordinary physical and chemical forces.²

But the reader will appreciate Sir Oliver's rejoinder:

I wish to oppose the fallacy in the strongest terms. If it were true that vital energy turned into, or was anyhow convertible into, inorganic energy, if it were true that these inorganic energies always or ever reappear on the dissolution of life, then undoubtedly, *cadit quaestio*, life would immediately be proved to be a form of energy and would enter into the scheme of physics. But inasmuch as all this is untrue—the direct contrary of the truth—I maintain that life is not a form of energy, that it is not included in our present physical categories, that its explanation is still to seek.³

¹ Professor Stout, *Manual*, p. 334. ² *Hibb Jour.*, July, 1905, pp. 745, 747.

³ *Hibbert Journal*, October 1905, p. 182. If Sir Oliver needed any support, it might well be supplied in the words of Professor Schoeler: 'Aber die geistige Welt, die schöpferische Thätigkeit der Seele ist

Since, however, we are assured so dogmatically and so often that consciousness, together with all that is included under mental activity, is nothing but 'a physiological function of the brain,'¹ so that 'sense-experience and rational thought are two distinct cerebral functions; the one is *elaborated*'—beautiful Monistic simplicity—'by the sense-organs and the inner sense-centres, the other by the thought-centres,'² it may be worth while to estimate this dogmatic reiteration from the standpoint of the psychological authority to whom we are referred. 'The phronema is the organ of thought,' says Haeckel's monism, 'in the same sense in which we consider the eye the organ of vision, or the heart the central organ of circulation.'³ How modestly this begs the whole question at issue, Professor Stout's words, already partly quoted,⁴ best show:

Digestion is a function of the alimentary canal; breathing is a function of the lungs; why cannot we simply affirm that keine hypothetische—sie existiert, sie besitzt eine fühlbare Selbständigkeit, Eigenleben und Geistesindividualität. Wenn der Monismus das alles als Hypothese hinstellt, so beweist er damit nur, dass er das Wichtigste am ganzen Naturprozesse, das, was bei der ganzen Entwicklung als ihr Zweck herauskommt, nicht zu würdigen noch zu erklären weiss.—*Probleme*, p. 104.

¹ *Riddle*, p. 66.

² p. 7. The following assertion (p. 104) also merits special attention; let such be given to it: 'A particular importance attaches to the circumstance that different nerves are *qualified to perceive* different properties of the environment, and these only.' The teleologist of course assents to this right heartily. But will the monist oblige by saying how (1) any nerves can 'perceive' anything? And then (2) how this differentiating function arose, without any differentiating intelligence out of nothing, or from chance, or by necessity?

³ *Wonders*, p. 16.

⁴ v. p. 77: repetition here seems warranted.

'consciousness is a function of the brain'? The objection is that *we do not make two things the same by applying the same word to them, when in their own nature they are radically and essentially different.* When we say that digestion is a function of the stomach, we mean that digestion is the stomach engaged in digesting. When we say that breathing is a function of the lungs, we mean that breathing is the lungs at work. But if we describe the brain at work, there is no need to mention consciousness at all; and in naming and describing conscious processes there is no need to mention the brain. The function of the brain as a physiological organ is to move the body. *If consciousness is supposed to be produced by the nervous process, the production is simply creation out of nothing.*

An objection of an equally serious kind is that such a theory destroys all possibility of agency on the part of conscious beings. In truth it makes impossible any real operation of consciousness of any kind whatever. *The logical consequence is not only that man as a conscious being never does anything freely, but that no man ever does anything at all.*¹

It is the simple truth to say that this attitude is entirely endorsed by all modern science deserving the name. What, then, becomes of 'the sound monistic principle'² that the human mind is 'a function of the phronema'? The only valid scientific conclusion is that it is 'sound' in another sense, and nothing more—save 'fury.'³

¹ *Manual of Psychology*, pp. 49, 50. Italics mine. In the light of the above extract, the reader will know how to appreciate the latest deliverance of Haeckel's advocate in *The Hibbert Journal* (July, 1905, p. 753): 'Science has found no reason to suspect that the mind-force is differently related to matter from any other manifestation of cosmic energy. Using every inductive test, it has found the mind-force as intimately and invariably dependent on nerve structure as the crystalline force is on crystal structure, and the digestive force on stomach structure.' It needs some chivalry, confessedly, to defend Haeckelian monism, but the chivalry of publicly recommending an authority who directly contradicts the recommender, is surely a new thing in literature.

² *Wonders*, p. 343.

³ Hereupon Michelet (quoted by Schoeler, *Probleme*, p. 101) says

This brings us necessarily to the chivalrous though blatant special-pleading of Haeckel's self-constituted champion. For untrained minds it is likely to be effective, but careful scrutiny soon shows the fallacies which abound on every page.¹

trenchantly: 'Das schlimmste Resultat der Atomtheorie ist aber, dass sie durch ihre eigene widersinnige Begriffslosigkeit Grenzen schafft, über die sie nicht hinweg kann. Jenseits dieser Grenzen liegt das Reich des Geistes, zu dem sie nicht hin kann, und dann auch jedem anderen hierzu die Fähigkeit abspricht: und zwar nicht aus Bescheidenheit sondern aus Hochmut! Eine Wissenschaft aber, die sich in diesen Jahrhundert so breit macht, und deren Weisheit in der absurden Atomtheorie ihr ende findet, ist eine barbarische!'

¹ As a fair specimen at once of the style and logic of this writer, the following may serve. *Ex uno disce omnes.* After the usual attribution of 'curious and wilful misconstruction' to the objector, we are told that 'Haeckel maintains that the force associated with the atom, or the cell, is the same fundamentally as that which reveals itself in our consciousness. That is the logical conclusion of all his proofs of continuous natural development. He is therefore logically correct in speaking of the "soul of the atom" if we insist on speaking of the soul of man. The sensation and will he attributes to atoms are obviously figurative, and merely reminders of his doctrine of the unity of all force or spirit.' Now here are four sentences for consideration. (1) As to the first: The 'force associated with the atom,' according to Haeckel, as above quotations sufficiently prove, is motion, and nothing else. When we pass to the cell, it is his strongest contention that 'vital force' is an absurdity, and that mechanical force alone remains. Thus his doctrine is, incontrovertibly, that it is motion which reveals itself in our consciousness; and this has been sufficiently estimated by the very manual which Mr. McCabe asks us to consult. (2) As to the second: This is pure assumption; there are no proofs of 'continuous natural development.' The alleged proofs are nothing more, as has been above shown, than hypotheses built upon gaps in our knowledge, and rightly named myths, according to the author's own terminology. (3) As to the third: The assertion here again rests upon the assumption—the very thing to be proved—that there is no difference between the 'soul of a man' and the something-besides-matter which Monism is obliged to postulate in atoms in order to make its 'system' workable. The problem how, out of the (alleged) unconscious soul of the atom, to evolve by 'continuous natural development' all the 'most complicated mental activity' of the human mind, is treated as Alexander treated the Gordian knot,

Thus we read that—

Protoplasm is a most highly elaborate chemical compound with a most intricate molecular structure. It is quite natural to expect the force-side of it to be very distinctive and peculiar : so we agree to connect life with the lower forces.¹

Here once more, as Paulsen says, 'Man fasst sich an dem Kopf. Was meint er denn?' First, mark the modest *petitio principii*—'a chemical compound,' and, of course, nothing more. As if this were what modern chemical science is able or willing to affirm ! Then note that this protoplasm—or, as his master terms it, 'plasm'—in the brain becomes 'psychoplasm,' which differs, no one knows how, from protoplasm. All its intricate molecular motions, however, are purely mechanical, yet—happy fortuity for Monism!—they happen to have a 'force-side'—the 'side' of a movement being a (truly)

only with somewhat less modesty. (4) As to the fourth sentence: 'Obviously figurative' is certainly a new and chivalrous suggestion. But it is equally false. Neither the word nor the notion ever occurs in Haeckel's own pages. His term is 'elementary.' Is, then, 'elementary' education 'figurative' education? 'Merely reminders'; such meekness of speech is refreshing on these pages, but is quite unavailing in face of the fact that quotations to the contrary from all three works may easily be multiplied. But they are unnecessary, for the very terms give away the whole Monistic case. If the ultimate atom-soul is 'merely a figurative reminder' of Monistic doctrine, then the final foundation of the whole vanishes into thin air. Nothing is left but the pertinent criticism of Schoeler: 'Haben die Bausteine der Welt und des Lebens kein Bewusstsein—wie kann aus Unbewusstem jemals Bewusstsein entstehen? Ebenso wenig wie aus nichts ein Etwas! Wenigstens muss uns erklärt werden, wie Unbewusstheit in Bewusstsein übergehen kann—was bisher kein Physiker oder Psychologe fertiggebracht hat. Aber solange diese Lücke klafft, kann auch ein auf dem Princip des Substanzbegriffes beruhender Monismus nicht den Anspruch erheben, eine Erklärung des Weltganzen darzustellen.'—*Probleme*, p. 94.

¹ *Haeckel's Critics Answered*, p. 55.

'peculiar' physical conception—which manages to be so 'distinctive' as to be, when required, something altogether and specifically different from motion, viz. consciousness. And this is why—'so'—we 'agree to connect life with the lower forces.' But it would first be interesting to know what 'the lower forces' are, seeing that the same forces are alleged to be at work in the 'highest mental activities' as in the simplest molecular aggregations. Assuming that there are such, might we not also venture to ask *how* these 'lower forces' are to be 'connected' with life, say the life of the eminent Professor at Jena? But 'psychoplasm,' we are told, 'advances still further in complexity, and, moreover, organic structure of the most intricate kind is added.' What, then, is 'psychoplasm,' if it is not already 'organic structure of the most intricate kind'? The real question is, Does any such assumed growing complexity *add anything beyond motion*? To that Monism itself definitely answers no. Then let us proceed:

Hence in the human brain, on physical principles, we must expect a manifestation of force vastly different from all that we find elsewhere. We find mind.

So, then:

Haeckel, on the strength of this very clear and scientific reasoning, concludes that he sees no reason for thinking that the mind-force is specifically different from any other kind of force.

To all of which the answer is as simple as conclusive. One thing is lacking, viz. the expression of 'mind' in terms of 'force.' It can never be sufficient, save for 'uneducated persons,' to say

with dramatic conciseness, 'we find mind,' unless also we mind what we find. That is to say, until emotion is expressed in terms of motion, all talk about 'this very clear and scientific reasoning' is but the pitiful delusion of Monistic subjectivity.¹

When, therefore, we find this writer meekly posing thus: 'I dare not risk fatiguing the reader with a further analysis of Mr. Williams's criticisms under this head,'² the situation would be really comic but for the involved impertinence which goes on, as usual, to talk of the 'petty quibbles' and 'pedantic effort' of an opponent. The latter having rightly suggested that, 'as far as science goes, we are quite free to conceive the relation of mind to brain as that of the musician to his instrument,'³ Mr. McCabe opines that—

this is gravely misleading. Science permits no such substantial independence of each other as there is between musician and organ. The only proper metaphor science would allow is the relation of music to the instrument; which is by no means so accommodating to the dualist.

Upon which it becomes necessary to remark that both these sentences are still more 'gravely mislead-

¹ In the words of a man of science specially qualified to speak hereupon: 'It appears to me equally certain that there is no correspondence yet made out between the power of choice and any physical action, and there does not seem any likelihood that a correspondence will ever be made out. Holding this view, I am bound to repudiate the physical account of nature when it claims to be a complete account. I am bound to deny that the Laplacean calculator can be successful when he takes man and the mind of man into his calculations.'—Dr. J. H. Poynting, F.R.S., Professor of Physics in the University of Birmingham, *Hibbert Journal*, July, 1903, p. 743.

² *Haeckel's Critics Answered*, p. 55.

³ Rhondda Williams, *Does Science Destroy Religion?* p. 22.

ing.' For as to the first, the term 'substantial' is really no more than a 'petty quibble,' if such an estimate be ever desirable in discussion. According to 'the hypothesis of parallelism,' which the psychological authority to whom Mr. McCabe himself refers us accepts,¹ the 'independence' of mind and body is every whit as *real*—whatever 'substantial' may mean—as the relation between the musician at the organ and the instrument; whilst as to the 'proper metaphor,' that suggested, viz. 'the relation of music to the instrument,' is perfectly confirmatory of the view either of the 'dualist' or the Christian monist. But it is not only less 'accommodating,' it is absolutely intractable for the Haeckelian monist. For, pray, what is music apart from a musician? And where is the musician without mind? When we find music to be so 'substantially' the 'function' of an organ that no musician is necessary, either to create or to appreciate music, then, but not till then, will it be time for us to fall back upon the belated dogmatism of such criticism as this.

But, as Haeckel's champion returns again to the charge on another page,² it seems necessary, in the interest of truth, to follow him thither. There we are once again enlightened as to the 'exact correspondence between brain-action and soul-life.' 'The correspondence,' it seems, 'is *just the same* in man as in the ape or the dog'; which assertion, after the manner

¹ Stout's *Manual*, pp. 50, 56. It is unnecessary to point out how Monism necessarily rejects this dictum of its own chosen authority.

² p. 63.

of Monism, manifestly assumes one of the most fundamental points demanding proof, viz. that there is no specific difference between the 'soul-life' of the man and that of the dog. Meanwhile, the very authority to whom this writer refers us asserts that there is such a difference, even the measureless difference between the possibility or non-possibility of possessing character.¹ But to proceed:

As the shadow varies with the object which projects it, so does thought vary with the quality and action of the brain. There is no dispute about this.

The last sentence has the true Monistic ring about it, certainly. But that is all there is to recommend it. There is much more than 'dispute' about such a simile. We meet it here with flat denial. It is not strictly true that any object 'projects' a shadow at all. The shadow is caused by the projection of light, from some luminous source, in differing degrees according to the shape and density of the intervening object. Thus the object is really nothing more than the 'instrument' of the light. Applying the analogy in the present case, the instructed psychologist would say that the brain is equally the

¹ v. p. 158 supra. Here one cannot help recalling the words of Professor Huxley: 'But the man of science who, forgetting the limits of philosophical inquiry, slides from these formulae and symbols into what is commonly understood by materialism, seems to me to place himself upon a level with the mathematician who should mistake the x 's and y 's with which he works his problems for real entities, and with this further disadvantage, as compared with the mathematician, that the blunders of the latter are of no practical consequence, while the errors of systematic materialism may paralyse the energies and destroy the beauty of a life.'—*Lay Sermons*, p. 126.

instrument of mind; and the result of its working will be affected by the quality of the brain, as is the shadow by the form of the object. But what is to answer to the light that casts the shadow? Monism says, nothing. Well, we will accept such monism when we see nothing casting a shadow. There are not, as a rule, many shadows when light is absent. Meanwhile, even if the unwarranted analogy were to be permitted, it would not help the case of Monism herein; for if an object did 'project,' and so directly cause a shadow, this, as regards the relation of brain to mind, is precisely what is not demonstrated. To take the simplest case even, of an ordinary sensation. Says Professor Stout¹: 'When an external impression is followed by a sensation, what the external impression produces is a cortical process, which is *concomitant with but does not cause* the sensation.' When the Monist persists that 'this correspondence is the same as we find in the case of the heart and its function, the stomach and digestion, or the lungs and respiration,' we have already seen above² how he is flatly contradicted by his own chosen expert.

All, therefore, that we are concerned to note, is the addendum: 'Now in all these analogous cases we do not seek an instrumentalist. The instrument is automatic.'³ To which it would be amply sufficient

¹ *Manual of Psychology*, p. 51.

² See pp. 77, 164.

³ The philosophic foolishness of such a crisp sentence as this, in application to human nature, is well expressed in the following: 'It is well that we should frankly acknowledge that the mind is so connected

to reply that the cases alleged are *not* analogous, so that the comparison is 'gravely misleading.' Yet the suggestion is so significant that it ought not to be overlooked. 'In the heart and lungs we have automatic instruments, and we never dream of looking for a present instrumentalist. It is the same with the brain of the dog'¹—and the mind of man. In face of language such as this, one is driven to say that the subtlety of the assumption is only equalled by its plausibility and recklessness. It is absolutely nothing more than the old fallacy so often trenchantly exposed by clear-thinking psychologists.² Every one knows, surely, that the automatism of the heart gives rise to motion and motion only; the automatism of the lungs in turn brings about chemical reaction, and nothing more; but consciousness and mental activity in human beings are a great deal more than either motion or chemical reaction, or both together.³ So that to argue thus—

with the brain, that it is hardly too much to say that the brain's connexion with the mind is as intimate as the dependence of a violinist upon his violin. It would be easy to give him one so bad that it would be impossible for him to play on it, and yet nobody in their senses would say that the violin was the cause of Joachim's wonderful playing. It is the necessary organ thereof, but certainly not the cause of it, and one does not confuse in one's thoughts the violin and the violinist.—Mr. D. Howard, D.L., F.C.S., *Vict. Inst. Trans.*, No. 99, p. 207. Nor, one may add, do appreciative audiences ever talk about Joachim's music ever being a 'function of the violin,' or suggest that the violin is 'automatic.'

¹ p. 63.

² Recall the words of Professor Stout quoted above: 'We do not make two things the same by applying the same word to them, when in their own nature they are radically and essentially different.'

³ The case is well put by Dr. W. P. Montague, Professor of Philosophy in Columbia University, thus: 'Every modification of a physical thing

heart-automatism produces motion, lung-automatism produces chemical action, *therefore* brain-automatism produces 'mind'—is so pitiful a specimen of logic, and withal so impudent an assumption of the very thing under discussion, as to be positively dumbfounding on the part of any sincere ex-professor of philosophy.

Nor does it in the least relieve the Monistic fallacy to keep on repeating, as Haeckel does, that—

Brain structure represents the most perfect morphological product of plasm, and its physiological function—mind—is the most perfect action of a dynamo-machine, the highest achievement that we know anywhere in nature.¹

For here, as ever, the insertion 'mind' as a physiological function, is but the 'modest' assumption of precisely that which has to be proved. It seems necessary to quote Professor Stout yet once again:

The process of consciousness cannot be analysed or resolved into such processes as chemical and physical changes in nerve cells. If consciousness is supposed to be produced by the nervous process, the production is simply creation out of nothing.²

is its disposition relative to some other physical thing. Every brain state is thus nothing but a dynamic or spatio-temporal relation of one element in the brain to the elements with which it is in contact. This is the mystery that confronts all who would offer a mechanical explanation of consciousness. Mechanism is nothing but relation between particular elements in space and time; and though the materialist should prove again and again that every conscious state or presented quality depends upon a particular physical relation of motion or strain, his opponent could always reply with perfect assurance that it was not at all, no, not in the least, the molecular vibrations or etheric strains in his brain that he perceived, but something quite incomparably different, viz. red, green, pain, and the like.'—*Hibbert Journal*, January, 1904, p. 295.

¹ *Wonders*, p. 342.

² *Manual*, p. 49.

To reiterate, therefore, that 'cerebral functions are just as much determined by physical and chemical processes as any other of the vital functions'¹ is so 'gravely misleading' as to make it difficult to refrain from echoing Mr. McCabe's favourite metaphor of 'throwing dust,' for it is not a question of determining 'cerebral functions' at all. The question is as to what the cerebral functions themselves determine. The assumption that 'cerebral function' and 'mind' are interchangeable synonyms, is as baseless and—in face of the modern psychological investigation exemplified by Professor Stout—reckless an attitude as any avowed philosophy can possibly take. This has been so clearly expressed by one of our greatest living physicists that no apology need be made for quoting it *in extenso*. Says Professor Sir Oliver Lodge :

We have granted that brain is the means whereby mind is made manifest on this material plane—it is the instrument through which alone we know it—but we have not granted that mind is limited to its material manifestation, nor can we maintain that without matter the things we call mind, intelligence, consciousness, have no sort of existence. Mind may be incorporate or incarnate in matter, but it may also transcend it. Nor can we say with any security that the stuff called 'brain' is the only conceivable machinery which the underlying realities are able to utilize, though it is true that we know of no other. Yet it would seem that such a proposition must be held by a materialist, or indeed by a monist, if that term be employed in its narrowest and most unphilosophic sense—the sense in which it is used by Professor Haeckel—a sense which would be better expressed by the term 'materialistic-monist,' with a limitation of the term 'matter' to the terrestrial chemical elements and their combinations, i.e. to that form of substance to which the human

¹ *Riddle*, p. 72.

race have grown accustomed—a sense which excludes ethereal and other generalizations and unknown possibilities such as would occur to a philosophic monist of the widest kind.¹

The Haeckelian champion, however, is compelled to acknowledge that 'in a sense there is a third factor, both in the stomach, the canine life, and the human life'—these three being of course 'analogous cases'! 'Thus we have in a sense three elements—the instrument, the music, and the soul or energy associated with the brain.' But we are told elsewhere that 'the human soul is merely a collective title for the sum total of man's cerebral functions'²; and these all, being merely molecular vibrations, are summed up in the term 'energy.' Is, then, consciousness—to say nothing of sensation, emotion, will—'energy'? Assuredly it is not. Dr. C. S. Minot³ has all modern science with him in his thesis that 'consciousness has the power to change the form of energy, but is itself neither a form of energy nor a state of protoplasm,' so that this 'materialistic monism,' as Sir Oliver rightly terms it, is doubly 'gravely misleading.' It professes, indeed, to be the explanation of everything, and yet can give no rational account of even the simplest thing with which all investigation must ever begin, viz. our own consciousness. 'Our one certainty,' truly said Professor Huxley, 'is the existence of the mental world.' Yet all that

¹ *Hibbert Journal*, January, 1905, p. 325.

² *Riddle*, p. 72.

³ Of the Harvard Medical School, in his inaugural address at the meeting of the American Association for the Advancement of Science, July, 1902.

Monism, with its ceaseless sneers at the 'gaps' of theologians, can tell us about this fundamental certainty, is that there is an instrument—the brain—which no one questions; that there is music—thought—which we also know; and that there are 'functions,' which are merely molecular motions 'associated with' the instrument. Of this also we have long been aware. What we want to know is, first, how these useful motions were set going by that which is itself not motion; and secondly, how these, when set up, issue in that which is neither motion itself, nor can by any possibility be expressed in terms of motion.¹ Concerning these, the vaunted 'monistic system,' which so modestly declares that all others 'are so much waste paper,' can tell us absolutely nothing. Its helpless ignorance herein is merely one of the 'few lacunae' over which—if we are Monistic gymnasts—we 'pass with tolerable ease.'

In order, however, to leave such pseudo-philosophy without excuse, let us plainly answer the flourish of questions which its self-confident champion here sets forth as the end of all controversy. 'When Haeckel speaks of thought,' we are gravely assured, 'as a function of brain, he means the living brain.'² Have any of his examiners, then, been so brainless as to accuse him of meaning the dead brain? At all events

¹ 'How absurd, then, to make all the life and action of such sentient but the epiphenomenal shadows of vortex motions in such a chaos! Chaos I call it, for the world described strictly in mechanical terms can have not a vestige of meaning. There is exactness, there is precision, but there is no true unity and no sense.'—Professor James Ward, *Naturalism and Agnosticism*, vol. ii. p. 89.

² *Haeckel's Critics Answered*, p. 64.

no public statement to that effect has appeared. What his critics have rightly objected to is his assumption and assertion that 'the living brain' includes and involves nothing more than the 'incomparably intricate structure of material elements, and the natural forces associated with them, in which thought arises'; for here is 'dust-throwing' in very deed, although, to cultivate a little more courtesy than Mr. McCabe, we will assume that it is unintentional. For the 'incomparably intricate structure' is here entirely irrelevant;¹ the 'natural forces' are conveniently postulated without either reason or explanation; the phrase 'associated with' is merely an ignorance-covering ambiguity; whilst the simple assertion that 'thought arises in' such a complication, is but a childish way of substituting a fact for an explanation. Thus we know how to appreciate the next assertion: 'We have no scientific or philosophical ground whatever for postulating any further element to explain the music.' To the uneducated such an avowal may possibly bring impression, even if not conviction; but to the informed student it will rather bring indignation at the exhibition of commingled audacity and falsity, seeing that both modern science and philosophy say in the most

¹ 'Clifford's mind-stuff is simply the atom renamed. Allowing that it is not mind, he makes no attempt to show how from such dust a living mind could ever spring, but is content to assert that reason, intelligence, volition are properties of a complex made up of elements themselves not rational, not intelligent, not conscious. On one point only in this maze of psychological barbarism I will venture a remark. The assertion that new properties arise from any mere complication or conjunction of elements is never justifiable, least of all in such a case as this.'—Professor James Ward, *Naturalism and Agnosticism*, vol. ii. p. 15.

unmistakable terms that neither the 'intricate' structure of the instrument, nor the 'natural' (that, is by repeated allegation,¹ mechanical) forces do at all 'explain the music,' nor does the ensuing dramatic series of queries in the least avail to help the case. Let us face them.

'Is it scientific to make an exception of this living brain and say it is the only non-automatic organ in the body?' Answer: It is scientific, not to make but to acknowledge—what is already made—an 'exception' in the brain, as compared with the other bodily organs. For the plain fact with which science has first to do is that, even on this writer's own showing, there is no other to be compared with it, either for complexity of structure or idiosyncrasy of function. Until it can be shown that the motions, or secretions, or functions, of the other bodily organs, are facts of the same order as consciousness, sensation, will, no argument whatever, either for or against automatism, can be drawn from those organs as 'analogous' to the brain.

'Does the relation of the brain to the rest of the body give the least support to the notion?' Answer: It is not necessary that it should. The question is altogether irrelevant; for the matter under discussion is not the extent and influence of the cerebro-spinal nervous system, but whether 'mind' can find its equivalent in the molecular vibrations of the cerebral cortex.

'Is it scientific to say that the living brain is

¹ 'Monism strives to carry back all phenomena, without exception, to the mechanism of the atom.'—*Confession of Faith*, p. 19.

automatic in the whole animal world, but cannot be so in man because the music is finer and more difficult?' Answer: No man of science is in a position to say that the living brain is 'automatic in the whole animal world.' Wherever there is consciousness, an automatic brain is pure assumption, to which true science does not 'give the least support.' Consciousness cannot, under any circumstances, be expressed in terms of cerebral automatism. Then as to the 'finer and more difficult' music. It may well be that both philosophy and theology have much yet to learn concerning the marvels of that 'mental evolution in animals' upon which Dr. Romanes so forcefully wrote. He, indeed, who can study that work and ascribe to automatism all the facts therein related, must have a peculiarly constituted reasoning faculty; but if we take the statements of the author, as of one whose work Haeckel highly extols, we find plenty of material for reply to the question before us. Thus he regards 'selective discrimination as the root principle of mind,'¹ and goes on to say:

If we turn from the ascending scale of mental faculties in man to the ascending scale of mind in the animal kingdom, we shall meet with further and still more definite evidence that the distinguishing property of mind, on its physiological side, consists in this power of discriminating between different kinds of stimuli, irrespective of their degrees of mechanical intensity.

Then, by way of 'justification for tracing back the root principles of feeling and choice into the vegetable kingdom,' he proceeds to say:

¹ *Mental Evolution in Animals*, pp. 51-5.

The rudimentary power of discriminative excitability which a plant displays, is commensurate with the rudimentary power of selective adjustment which it manifests in its movements; and just as the one is destined by developmental elaboration to become a conscious subjectivity, so the other is destined by a similar elaboration to become a deliberative volition.

Granting all this—and more cannot by any evolutionary theory be demanded—the plain statement of the case then is, that when the stage of ‘self-conscious subjectivity and deliberative volition is reached, that of automatism is measurelessly left behind.’

That this so-called ‘automatism’ is, indeed, only a confusion of terms for reflex action, and that reflex action by no means suffices to explain even the bodily motions of the lower vertebrates, may be learned clearly enough from careful scrutiny. Take such an example as that specified by Dr. A. Hill:

Compare the frog with the jelly-fish. The healthy, uninjured frog displays in its behaviour evidences of a power of selecting its actions. Frighten it and it may jump away; or it may, under apparently exactly similar conditions, refuse to move. Remove the brain of the frog (an operation which it bears with remarkable impunity), and carefully keep it moist and fed, and for the rest of its life (which may easily be prolonged for a year or eighteen months) we have in our hands a machine which responds infallibly to every stimulus, but never makes a move in the absence of an easily recognized provoking cause.¹

Thus it becomes increasingly manifest that all this would-be stress upon ‘automatism,’ is but a blending of confusion with delusion. All creatures with brains must be conceived as living in the

¹ Master of Downing College, Cambridge, *Transactions of Victoria Institute*, No. 101, p. 38.

midst of some environment. In so far as the alleged 'automatic' brain-action involves response to the environment, it is nothing more than reflex action, the actuality of which no one denies. If there be anything more than this, then it is either 'creation out of nothing,' or it is necessarily the old riddle of the transformation of motion into emotion, molecular vibration into mind.¹ In either case the much-vaunted 'mechanical continuity' of Haeckelian monism is at an end.

When we are asked, again, 'Does embryology favour the idea?'—viz. that the mind of man is other than 'automatic'—it is sufficient to reply that embryology has nothing to do with it, inasmuch as it can never concern itself with those mental activities which form the very crux of the question before us. Whilst as to the final query, 'Does philosophy step in and bid us suspend the scientific method and admit a breach in the scientific continuity?' the answer is that genuine—and Christian—philosophy bids us admit 'whatsoever things are true,' and let the 'scientific method' take care of itself. Methods must yield to facts, and not facts to methods. The much-belauded principle of unbroken 'continuity' in science is, after all, merely an hypothesis—save where it is also a fetish—and we have the authority of Haeckel himself for

¹ 'Der Materialismus ist ferner unhaltbar weil er unfähig ist, durch Mechanik materieller Atome auch nur den elementarsten Akt psychischer Natur zu erklären: denn der Stoff kann nur Stoffliches, räumliche Bewegung nur räumliche Bewegungen hervorbringen, nicht aber immaterielle Vorstellungen erzeugen.'—Schoeler, *Probleme*, p. 99.

pronouncing those 'hypotheses which are contrary to facts' to be but 'myths.' In that sense the evolution of mind from matter is, and ever must be, a mere Monistic myth. No pertinacious reiteration of 'sound monistic principles' ever does, or ever will, make mind to be thinkable in terms of matter, or find expression for the simplest emotion in terms of motion. The utmost that can be said is, in the language of Dr. A. Hill, that—

Consciousness is a by-phenomenon which accompanies the reception and transmission of sensory impressions. It cannot be imagined as preceding sensation, it accompanies it. In the evolution of the animal kingdom it makes its appearance at some point which we can never determine, for we can only judge of its existence in animals by its effects. It cannot be defined, for we can only express it in terms of itself or in descriptions of the circumstances under which it is manifest.¹

So that, to copy the exuberant phraseology of Mr. McCabe's booklet, we 'see how puny and fruitless are the efforts' Monists 'make to overleap the unbroken and impregnable barrier' which exists, and will for ever exist, in the incommensurability of mind and matter, consciousness and vibrations, thought and movement.² To take such a leap does indeed require 'a fantastic and desperate philosophy.' How desperate we may judge from the writer's 'modest' avowal, that to reject his views is to 'admit for man a privilege that is unknown *from end to end*

¹ *Victoria Institute Transactions*, No. 101, p. 46.

² 'Bewusstsein aus der Materie ableite wollen, das ist ein ähnliches Kunststück, wie wenn der Freiherr von Munchausen sich am eignen Zopf aus dem Sumpf zieht.'—Adickes, *Kant contra Haeckel*, p. 57.

of the universe.'¹ Most of us find it sufficiently difficult to think of a 'universe' that has two ends, without also trying to conceive of a man, or a system, able to pronounce absolutely upon what is 'unknown' throughout its whole content.²

It is with good reason, therefore, that Dr. Illingworth says: 'It may fairly be maintained that there exists an overwhelming majority of philosophers who, amid many differences, are agreed upon the spiritual character of man.'³ And the significance of this fact is vastly enhanced by the example of such well-known experts as those mentioned by Haeckel himself, who in their earlier years of investigation were greatly drawn towards such

¹ Even Dr. Maudsley, whose opinions in these subjects cannot be said to lack vigorous expression, is content to say: 'Still it is all too true that, notwithstanding we know much, and are day by day learning more of the physiology of the nervous system, we are only on the threshold of the study of it as an instrument subserving mental function.'—*Body and Mind*, lecture i. p. 12.

² Does not Professor W. James speak truly when he says: 'Is it credible that such a mushroom knowledge, such a growth overnight as this, can represent more than the minutest glimpse of what the universe will really prove to be when adequately understood? No! our science is a drop, our ignorance a sea.'—*The Will to Believe*, p. 54.

And equally so Sir Oliver Lodge: 'Can there not be in the universe a multitude of things which matter, as we know it, is incompetent to express? . . . The total possibility of existence is so vast that no single formula, nor indeed any form of words, however complex, is likely to be able to sum it up and express its essence, to the exclusion of all other modes of expression.'—*Hibbert Journal*, January, 1905, pp. 319, 327.

'Ins innre der Natur dringt kein erschaffener Geist, zu glücklich, wann sie noch die äussre Schale weist. Und selbst von dieser äusseren Schale erkennen wir nur kleine Teile. Unendlich ist allein das für immer verborgene. Unsere Welt, die Welt der Sinne, ist nur ein Ausschnitt aus der Wirklichen Welt.'—Professor Adickes, *Kant contra Haeckel*, p. 113.

³ *Personality, Human and Divine*, cheap edition, p. 32.

a monism as he now proclaims, but 'in their later years they have found that this is not completely attainable, and so they entirely abandon the idea.'¹ How any man claiming to be at once a man of science and a philosopher, sincere and modest, could so far demean himself—at the age of seventy-one—as to affirm that 'this change of views is in itself an instructive psychological fact, being due to the gradual decay of the brain which comes with old age,'² is a problem such as charity bids us leave to his special advocate to solve. The least that can be said is that if Monism really needs such support as this, it is in a more pitiable condition than even the feebleness of its main foundations would have indicated. The philosophy which can only be maintained by pouring scorn upon such men as Newton, Kant, Virchow, Du Bois Reymond, Wundt, Karl E. Baer, and Romanes, sufficiently condemns itself. Modern science, as distinct from what Mr. McCabe calls 'petty and petulant criticism,' finds true expression in the words of one of these:

I will now prove conclusively, as I believe, that not only is consciousness unexplained by material conditions in the present state of our knowledge (which all will admit), but that in the very nature of things it never can be explained by these conditions. The most exalted mental activity is no more comprehensible in its material conditions than is the first grade of consciousness—viz. sensation. With the first awakening of pleasure and pain experienced upon earth by some creature of the simplest structure appeared an impassable gulf, and the world became doubly incomprehensible.

¹ *Riddle*, chap. vi. p. 33, &c.

² p. 37.

And Dr. Ferrier's words are amply corroborated by the following judgement of Du Bois Reymond :

We may succeed in determining the exact nature of the molecular change which occurs in the brain when a sensation is experienced, but this will not bring us one whit nearer the explanation of that which constitutes the sensation. The one is objective and the other subjective, and neither can be expressed in terms of the other.¹

To these may well be added two other equally weighty testimonies. Dr. A. Hill says :

Now, the curious thing about the study of the anatomy of the brain cortex is that the more we go into it the more we are inclined to give up the notion that the cells have anything to do with the mental processes, except in so far as they serve for the connexion of filaments of the network and transmission of impulses. The function of the cells seems to be to look after the nutrition of the filaments. We cannot find that any cell has any such use as that suggested, viz. that it is a kind of little office in which an ideal impression is originated and from which it is discharged.²

Such a statement from one unusually well qualified to speak, would in itself suffice as a set-off against the dogmatic reiteration that—

The phronema is the real organ of mind by reason of millions of psychic cells or neurona which are associated as special thought organs at certain parts of the cortex, each phronetal cell being a small chemical laboratory contributing its share to the unified central function of the mind, the conscious action of reason.³

Well, indeed, may experts in Haeckel's native land cry out: 'Welche Logik! Welche Verwirrung der

¹ See Flint's *Anti-theistic Theories*, p. 498.

² *Victoria Institute Transactions*, No. 101, p. 53.

³ *Wonders*, p. 342.

Begriffe!¹ Think only for a moment of the philosophical hash served up in such expressions as these: 'Psychic cells'; 'a small *chemical* laboratory'—for the manufacture of *thought*; 'the *central* function of *mind*!'; 'the conscious action of reason'—as though reason were an entity, *per se*, to which consciousness could be attributed.² Such jargon as this is, however, the rule rather than the exception throughout these volumes.³ We are driven, therefore, to the conclusion that this whole tirade about the 'evolution of mind' from 'substance' in complete continuity, being 'for ever established,'

¹ Adickes, *Kant contra Haeckel*, pp. 19, 33.

² Schoeler's witness deserves to be added to that of Du Bois Reymond and Drs. Ferrier and Hill. 'Die entwicklungsgeschichtlichen Forschungsergebnisse machen dies Rätsel nicht bloss nicht verständlicher, sondern, nach dem Urteil der bedeutendsten heutigen Nervenhistologen und Hirnphysiologen, eingestandenermassen nur noch unbegreiflicher und verwickelter.'—'Die immaterielle Innerlichkeit, die nichts und doch des Höchste zugleich ist—die unerschöpfliche Kraftquelle, die strahlend hervorbricht, wie die Sonne aus den Wolken, das eigentliche Centralphänomen des Daseins, um das alles gravitiert, weil es den Inhalt des Lebens bildet: die Seele und das Wissen von selbst.'—*Probleme*, pp. 81, 74.

³ Only space is required to substantiate this statement. Take one more instance only. 'In the substance of the soul,' we are told (*Riddle*, p. 70), are to be distinguished 'the characteristic psychic energy, which is all we perceive, and the psychic matter, i.e. the living protoplasm.' Now note that here, assuming only the previously given definitions of 'soul,' we have 'the *substance* of the collective idea of the sum-total of the functions of the phronema'—as being composed of 'psychic energy,' which we perceive, and 'psychic matter,' which we do not. What, then, is the '*we*' which perceives? It is manifestly a function perceiving a function—whilst '*psychic energy*' is nothing but the 'force-side of matter,' i.e. nothing but mechanism; and 'psychic matter' is—if the words mean anything at all—simply a contradiction in terms, as Professor Stout has shown (v. p. 164 above). And this passes as 'monistic philosophy'!

is simply an immodest though instructive parade of unscientific prejudgement. The avowal of ability to 'pass with tolerable ease from the lowest kingdom of the protists to the phenomena of human intelligence,'¹ suggests practice much rather with the stilts of prejudice than the steps of reason. Nothing, of course, is easier than to say that 'the few lacunae in our evidence are insignificant,' but the measurement of such 'insignificance' depends upon the standpoint. Many a crevasse in the Alps looks insignificant until the tourist comes close up to it, and finds unbridged continuance in the same path impossible. Surveyed from the supreme heights of Monistic dogmatism, no doubt these 'few lacunae'² seem small enough to be neglected with impunity. But, on the closer inspection which true science demands, they are found to be such 'gaps' as only the 'fantastic and desperate philosophy' represented in Haeckelian monism can overleap. In any and in every case, they have to be crossed by hypothesis, that is, by faith. Bridge of fact, or reason, there is none.

Finally, it has to be plainly pointed out that Professor Ward is well warranted when he says,³ 'The monism now in favour with many scientific men is that old materialism, to all intents and

¹ *Riddle*, p. xii.

² In regard to which the same writer himself says (p. 111), 'There are, every biologist admits, scores of phenomena which are not as yet capable of explanation by mechanical forces.' This is a curious and noteworthy synonym for 'a few lacunae.'

³ *Naturalism and Agnosticism*, ii. p. 16.

purposes, though with a new face.' How deceptive face may be as an index to human character, we know. It is no more reliable in regard to Haeckel's monism. The ostentatious declarations of the distinction¹ between Monism and materialism, have to be estimated in the light of the whole system as everywhere propounded. What else, for instance, is it but direct self-contradiction to say in one place 'of the three great monistic systems, *materialism* lays too narrow a stress on the attribute of matter, and would trace all the phenomena of the universe to the *mechanics of the atoms*, or to the movements of their ultimate particles,' when at another time we are assured, with all possible emphasis, that '*monism* strives to carry back all phenomena without exception to the *mechanism of the atom*?'² But we learn further that—

Our system of hylonism (or hylozoism) avoids the faults of both extremes, and affirms the identity of the psyche and the physis in the sense of Spinoza and Goethe. It meets the difficulties of the older theory by dividing the attribute of thought (or energy) into two co-ordinate attributes, sensation (psychoma) and movement (mechanics).³

Such a sentence alone amply suffices to confirm Professor Ward's judgement. How 'gravely misleading' is the reference to Spinoza and Goethe we shall show in a later chapter.⁴ What, we may

¹ *Riddle*, p. 8; *Wonders*, pp. 84-87, 468, &c.

² *Confession*, p. 19. For a trenchant summary of other self-contradictions in Haeckel's whole theory of mind, see the article by Mr. Robert Christie in *The Contemporary Review*, April, 1904, p. 504, &c.

³ *Wonders*, p. 469.

⁴ Referring to Spinoza, Professor Adickes—quite as real an expert

now ask, is gained by the promulgation of two new names, such as 'hylonism' and 'hylozoism,' when, as Professor Adickes says, there is nothing in either of them but inconceivable assumptions?¹ Whatever 'system' affirms the identity of 'the psyche and the physis,' disproves itself just in the degree in which any intelligible sense is attached to those terms. If, indeed, additional proof were required that such a 'system' must be an unthinkable failure, it is surely before us in these very words. What kind of a philosophy can it be that calmly says 'thought or energy'? As if these words were manifestly identical! Or, again, that proposes to divide 'thought' into 'sensation and movement'! Is it any wonder that his own countrymen, in the land of philosophy, laugh with sheer scorn² at such mental monstrosities?

Assuredly the repetition of verbal shuffles such as these, will not serve to shield Monism from the severity of the indictment brought against materialism by true philosophy. Dr. Flint has not spoken one whit too strongly:

herein as Haeckel in biology—sums up the relationship with sharp emphasis by saying, in regard to the conceptions of God, nature, and substance, 'Eben darum hat aber Haeckel's Anschauungsweise mit der Spinozas, auch nicht die entfernteste Ähnlichkeit.'—*Kant contra Haeckel*, p. 12. See also p. 453 to follow.

¹ 'Eins ist so dunkel wie das Andere. Es sind eben alles nur Namen: nicht fassbare Wirklichkeiten, sondern inhaltsleere Begriffe, die nur dazu dienen, das unfassbare, Unbekannte, Unbergreifliche wenigstens mit einem Wort zu bezeichnen.'—p. 73.

² So writes Professor Paulsen: 'Was ich darzuthun vorhabe, ist nicht mehr, aber nicht weniger als dies; dass Haeckel als Philosoph nicht ernst zu nehmen ist.'—*Philosoph. Mitth.*, p. 125.

When materialism comes to deal with mind, it simply breaks down. It has not as yet been able to bring forward any fact which proves more than that the mind is intimately connected with and largely dependent on the body—a conclusion which affords no support to materialism.¹

Hence the modest assertion of Haeckel's champion, that 'every canon of logic and science' justifies 'the conclusion that in this vast hierarchy of facts we see the world-force ascending upwards, *until it grows self-conscious* in the human brain'² is not only itself a 'vast' assumption built on 'gaps,' and essentially inconceivable—indeed, pure philosophical bathos—but it throws such vaunted Monism completely open to the seven-fold disproof of materialism summarized by Dr. Flint.

1. Materialism leaves unexplained the fact that physical and mental phenomena are distinguished by differences far greater than any which distinguish other phenomena.

2. Materialism fails to show that molecular changes in the nerves or brain ever pass into mental states.

3. It fails to explain the unity of consciousness.

4. The consciousness of personal identity is also a fact with which materialism has not yet succeeded in showing that it can be reconciled.

5. It has not yet shown itself to be reconcilable with self-consciousness.

6. It does not account for the internal spontaneity or the self-activity which is characteristic of mind.

7. It is irreconcilable with the moral feelings of human nature.³

Every one of these applies to Haeckel's monism with a force which is not in the least mitigated by the reiteration of such phrases as 'hylonism,' 'hylozoism,'

¹ *Anti-theistic Theories*, p. 496.

² *Haeckel's Critics Answered*, p. 58.

³ See *Anti-theistic Theories*, pp. 496-500.

'world-force,' 'matter-force-reality,' &c.¹ These fine figures of speech cannot for a moment blind us to the plain fact that this monism is neither more nor less than masked materialism.

Neither is it of any avail to have recourse to a fine scorn for metaphysics.² Nothing is easier for the 'uneducated person,' we know, than the contemptuous dismissal of whatever he cannot understand, as meaningless. But there is no jargon of meaningless words in such a statement as that of Dr. Courtney :

The marvellous thing about self-consciousness is that in it the mind recognizes itself as the subject of its own states, and recognizes these states as its own. The mind, as it were, appears to itself, and links every mental state together by the bond that they all belong to its one self. What does any man mean by speaking of his own personality, except that he is conscious of himself as being the one identical being who has had every kind

¹ Paulsen's trenchant remark deserves to be recalled (v. p. 141 above) —'Die variierende Wiederholung dieser sinnlosen Verbindung von Wörtern macht ihren Inhalt nicht vorstellbarer.' So too says Prof. Adickes (p. 11)—'Zwar kehrt sie öfter wieder, aber eine falsche Behauptung wird durch häufige Wiederholung nicht richtiger.'

² 'We may therefore leave this supernatural metaphysical world to faith and fiction, and confine our studies to the real physical world nature,' says Haeckel (*Wonders*, p. 473). For the man in the street this style of remark is confessedly effective. But the honest student is not thereby beguiled. And we have seen how the very psychologist to whom we are referred, assures us that 'truth and freedom are ultimately topics for the metaphysician.' Are we, then, to understand that truth and freedom are but trifles, such as Monism can set aside 'with tolerable ease'? How in face of these and kindred statements, Mr. Dennis Hird can refer to Professor Haeckel as 'this great thinker' (*Easy Outline of Evolution*, p. 219) passes the comprehension of an ordinary student. The most fully accredited 'thinker' of the nineteenth century, Mr. Herbert Spencer, may be taken as umpire here, and his decision is firm : 'You cannot take up any problem in physics, without being quickly led to some metaphysical problem which you can neither solve nor evade.' (See Fiske's *Life Everlasting*, p. 50.)

of experience, and undergone various mental phases, and knows them all as his own? How can there be any material 'substratum,' analogous or correspondent to self-consciousness? The question is almost absurd. How can any physiological process represent this faculty of self-consciousness, when we can conceive of no relation between them which could bring them into any intelligible correspondence—when one remains a process, while the other is a flash of self-identifying power. Self-consciousness is the unique property of a mind which is so real that it can appear to itself.¹

Whilst to the modern philosopher who is disposed to assert that 'there can be no science founded on any but empirical evidence,' the words of Dr. Howison may be commended as worthy of his fullest consideration :

When, instead of blindly following experience, we raise the question of the nature and the source of experience, and push it in earnest, it then appears that the experience which seems so rigorously to exclude super-sensible principles, and particularly the personality of the First Principle, is itself dependent for its existence on a personal principle and on super-sensible principles ; that, in fact, these enter into the very constitution of experience.²

But as regards the true appreciation, the genuine explanation, the actual origination, of this 'marvellous thing,' it is manifest that Haeckelian monism contributes nothing beyond audacity and pertinacity. Verworn, whose work is so highly extolled in these volumes, has declared that 'the secrets of the mind are slumbering in the ganglion-cell.' It may be so for all the little knowledge we possess. But they are secrets still, and likely yet to slumber on. For, verily,

¹ *Trans. Vict. Inst.*, No. 99, *The Reality of the Self*, by W. L. Courtney, M.A., LL.D., p. 206.

² *Limits of Evolution*, p. 95.

the more carefully the pretensions of Monism to unravel them are scrutinized, the more hollow they are seen to be. Verworn's dictum that 'the psychic phenomena of the Protista form the bridge which unites the chemical processes of inorganic nature with the mental life of the highest animals,' may be in accord with what Haeckel terms 'sound monistic principles,' but yields nothing at all towards their justification. For even when the 'gap' between 'psychic phenomena' and 'chemical processes' is thus reduced to its very narrowest dimensions in the 'Protista,' the 'bridge' is yet purely hypothetical. So long as the psychic quality is real, quantity is irrelevant; and its identity with, or transformation into, or from, chemical quality, is unthinkable. Whether in an atom or in a universe, so far as we know either, whether in a protista or in a Goethe, the chemical is the mechanical, and the psychic is not. The chemical is material and the psychic is immaterial. If there be any degree of the psychic in the monera, its infinitesimalness no more makes it physical than the microscopic size of a circle makes it an ellipse. Size is irrelevant: the properties are utterly and for ever distinct.¹

But, finally, the case for or against materialistic-monism is quite as honestly, and much more wisely,

¹ This is put in all clear emphasis by Professor Stout: 'There is a gulf fixed between the physical and psychical, of such a nature that it is impossible coincidentally to observe an event of the one kind and an event of the other kind, so as to apprehend the relation between them. No analysis can discover in the psychological fact any traces of its supposed physical factors.'—*Analytic Psychology*, i. p. 4.

judged from the highest rather than from the lowest stage of development.¹ The question, after all, is not whether it can give us a monad, but whether it can give us man. The problem is, how out of molecular vibrations to explain not a jelly-fish, but a Haeckel. When, therefore, Dr. W. N. Clarke asks :

Is it true, or is it not true, that the world of personal life is the world in view of which existence must receive its best interpretation? Is it, or is it not, the fact that only when man is considered can the riddle of existence even begin to be solved? Is the animal world or the human world our Rosetta-stone for translation of the language of the universe?²

most men of perception will know at once how to answer. 'When the cosmic system has attained to the production of personal beings, then personal facts and relations are the elements indispensable for the understanding of the system.' This being so, the special-pleading which assures the mass of our fellow-countrymen to-day, in the name of Monism, that 'the case for the evolution of mind has been placed upon the same experimental base as the theory of the evolution of the body; distinction has no longer the semblance of reason,' is its own sufficient refutation, if readers will only view it carefully. There is no such 'experimental base' for the theory of evolution, as to put it beyond all doubt or criticism. It suggests

¹ 'Yet the key of all mysteries is man. The first and last, the highest and surest thing in Nature, is the thought which explains Nature, but which Nature cannot explain. And the thought which Nature embodies has been progressive, has moved upwards to Mind, a mind that feels its kinship with the Source, the Secret, and the End of all this mysterious system.'—Fairbairn, *Philosophy of the Christian Religion*, p. 60.

² *Huxley and Phillips Brooks*, p. 49.

a tentative explanation of some phenomena, but it is quite helpless to explain others; whilst as to the theory of 'the evolution of mind' from matter, or from a 'substance' for which 'force' has been assumed, by means of psychoplasmic molecular vibrations, it is not only at present destitute of philosophical validity, but never can be otherwise.¹ If there be no distinction twixt mind and motion, if thought can be identified with physical force, 'or energy,' then there is indeed 'no longer the semblance of reason' in any philosophy on earth. In such case, as Professor J. J. Thomson has put it, 'there is nothing for it but to sit down and whittle a stick till death passes our way.'

Thus, at its best and utmost, Monism is but a bewildered syncretism. Once and for all, the pseudo-philosophy which vaunts its power to 'carry back to the mechanism of the atom all phenomena, without exception,' has to reckon not merely with Monads, or Protista, but with a Gladstone and a Shakespeare, with a Lincoln and a Roosevelt, to say no more. The 'system' which for the explanation of these, and all else that belongs to the life and love of earth, has nothing to offer but mechanical and

¹ There is really no answer to Schoeler's putting of this 'case.' 'Die Schwierigkeit liegt in dem Verständniss dessen, was bei der Entwicklung eigentlich herauskommt—der Entfaltung des inneren Kernes der Natur, des wachsenden Bewusstseins der Lebewesen und des Gegensatzes von Geistigkeit und Körperlichkeit überhaupt. Denn "Entwicklung" ist, wie schon das Wort es andeutet, nur Mittel zum Zweck: und der Zweck kann nur die Offenbarung dessen sein was, zunächst noch durch die Involution larviert, sich allmählich aber mit unwiderstehlichem Drange herauswickelt und herausschält.'—*Probleme*, p. 74.

chemical movements, sets a cap and bells upon its own brow. It really accomplishes nothing more than to call special attention to the 'gaps' upon which it is compelled to build.¹ Its most prominent feature cannot but be the effrontery which styles its castle in the air a 'scientific' citadel, and appraises its incoherent assumptions as a 'theory of the universe.'

¹ 'If this science is tested by its own principles, we shall see that it does one thing of which itself it has no adequate conception. It does not answer the riddle; but what it does do is to restate it with an amplitude and clearness of detail never attained till now. Professor Haeckel's work, for example, which purports to provide us with a solution of it, is in effect a magnifying glass of enormous power, which helps us to see clearly what the question to be solved is, little as he himself understands what he has done so much to reveal.'—W. H. Mallock, *The Reconstruction of Belief*, p. 180.

V

THE THOUGHT OF GOD

'We only know God in His works; but we are absolutely forced by science to believe with perfect confidence in a Directive Power—in an influence other than physical, or dynamical, or electrical forces. There is nothing between absolute belief in a Creative Power and the acceptance of the theory of a fortuitous concourse of atoms.'

LORD KELVIN, *Nineteenth Century*, June, 1903.

'Because reference to the Deity will not serve for a physical explanation in physics, or a chemical explanation in chemistry, it does not therefore follow that the sum total of scientific knowledge is equally intelligible, whether we accept the theistic hypothesis or not.'

PROF. WARD, *Naturalism and Agnosticism*, vol. i. p. 24.

'The natural sequel of the argument would be this. Sight, being a fact not precedent but subsequent to the putting together of the organic structure of the eye, can only be connected with the production of that structure in the character of a final, not an efficient cause—that is, it is not sight itself, but an antecedent idea of sight, that must be the efficient cause. But this at once marks the origin as proceeding from an intelligent will.'

J. S. MILL, *Three Essays on Religion*, cheap edition, p. 74.

'It were as easy to believe that, say, Milton's *Paradise Lost* had been set up in all its stately march of balanced syllables by an anthropoid ape, or that the letters composing it had been blown together by a whirlwind, as to believe that the visible universe about us—built upon mathematical laws, knitted together by a million correspondences, and crowded thick with marks of purpose—is the creation of some mindless Force.'

DR. FITCHETT, *The Unrealized Logic of Religion*, Fernley Lecture, p. 134.

'Science, then, in proportion as it is completely rationalized, not merely permits but actually compels the reason to recognize a purposive Mind as the First Cause of the universe; thus completely revolutionizing the atheistic or agnostic conclusion to which it seemed to lead when its implications were insufficiently realized.'

W. H. MALLOCK, *The Reconstruction of Belief*, p. 290.

V

THE THOUGHT OF GOD

It is now necessary to estimate the bearing of the monism of Professor Haeckel, upon the doctrine of Christian theism. This does not involve a comprehensive statement of the whole grounds upon which that doctrine rests.¹ For the present we have simply to scrutinize the strange admixture of dogmatisms, assumptions, misrepresentations, false logic, and self-contradictions—to say nothing of sneers—which, here as elsewhere, enter into the composition of what is termed ‘monistic philosophy.’ The following sentence from the ostensible ‘answer’ to ‘Haeckel’s critics,’ will serve at once to link this section on to the preceding, and show to what straits this alleged ‘system’ is reduced, in its attempts to formulate general conclusions:

It is no less scientific than philosophical to see in the growth of the human mind a further extension of the life-force of the cosmos, a further embodiment of the great matter-force-reality which unfolds itself in the universe about us, and in the wonderful self-conscious mechanism of the human mind.²

¹ This, however, I hope to attempt ere long in a following volume upon the general theme of *God and the Universe*.

² *Haeckel’s Critics Answered*, p. 60.

Here one cannot but mark at the outset how, with the reversed telescope described by Haeckel in his *Confession*—‘monism is for us an indispensable and fundamental conception in science’¹—vast assumptions like ‘life-force,’ and ‘matter-force-reality,’ which are quite unjustified by our present knowledge, are regarded as trifles to be assumed at will; whilst the self-contradiction involved in such a phrase as ‘self-conscious mechanism’—which at the same time begs the whole question under discussion—is but one more of the ‘wonderful’ exhibitions of this school which stagger every careful thinker. It is all the more regrettable to have to instance the spirit in which such sophistries as these are thrust upon the attention of readers to-day. In the chapter of the work referred to entitled ‘God,’² we are told that ‘quibbles about Haeckel’s particular way of conceiving the first formation of life or of consciousness, and so on, are irrelevant and distressing to the serious thinker,’ and that ‘the important point is that he has *proved his case* so far in its essentials’³—which one would think is a sufficiently audacious blending of the untrue with the contemptuous. But the reader is then further assured that all variations from, or objections to, these dicta are ‘useless talk,’ a ‘grave piece of insincerity or ignorance,’ ‘simply audacious assertions,’ ‘mere verbiage and sophistry’; whilst every Christian advocate, in particular, is just ‘trying to bully us,’ or merely producing ‘surging floods of

¹ p. 19.

² *Haeckel's Critics Answered*, vi. pp. 61–80.

³ p. 69. The italics here and in following citations are mine.

rhetoric'; and the final sentence dismisses with a verbal kick, 'the title or prerogatives of the dying God.'

All this may suit the taste of those with whom Mr. McCabe is now associated, but for the sake of others it becomes necessary to show how the Monism thus advocated, is too false and feeble to benefit long even by such astute, though 'gravely misleading,' popular propagandism. We will, therefore—

(I) Pass in brief review some notable instances of the composition of this pseudo-philosophy, as above hinted.

(II) Consider carefully Haeckel's main reasons for the atheism which he terms pantheism.

(III) Estimate frankly the worth of the confident special-pleading with which his translator has come to Haeckel's rescue.

I. 1. It has been intimated above that the usual *dogmatisms* are under this head unusually noteworthy. Such an avowal requires justification. Unfortunately it is all too easy to supply it, in accordance with the definition of dogmatism already given.¹ 'Our monistic view,' we read, 'not only marks the *highest intellectual progress*,' but '*definitely rules out* the three central dogmas of metaphysics—God, freedom, and immortality.'² Now a 'view,' we all agree, may 'rule out' anything any thinker believes to be untrue; but that it should at the same time arrogate to itself the 'highest intellectual progress,' is merely a piece of dogmatic conceit. Such is also the sweeping declaration that 'since Darwin—the supernatural and telic forces,

¹ v. p. 51.

² *Riddle*, p. 83.

to which the scientist had had recourse, have been rendered superfluous.'¹ How far the writer himself is from being content with the implication which his advocate suggests, viz. that such phrases merely state his 'opinion,' his other utterances make unmistakably clear. Thus a little later² he modestly avows that '*in educated people* the unprejudiced study of natural phenomena reveals the futility of the theistic idea.' From which there can follow but one conclusion, and that evidently intended. Similarly, when we pass to the later volume, the reader is informed that 'since the time of Kant and Laplace there has been *no question* of the conscious action of a Creator in any part of astronomy.'³ To the intelligent but uninformed artisan, such a statement will be impressive. The student of astronomy will only be struck by its equal falsity and impertinence. When we read further that 'the monism of the physical universe has now been established, so that in geology, astronomy, mathematics, chemistry, and physics there is no question to-day of the wisdom and power of the Creator,' the same feeling will be intensified into indignation. Finally comes the unqualified summary that 'no evidence of God's existence is to be found. This was

¹ *Riddle*, p. 92.

² p. 102.

³ *Wonders*, p. 476. This reminds one of Mr. Fiske's reference to 'the remark of the astronomer Lalande, that he had swept the entire heavens with his telescope and found no God there. Also that of the eminent physiologist, Moleschott, when he exclaimed, "No thought without phosphorus," and congratulated himself that he had for ever disposed of the human soul. I am inclined to think that those are the two remarks most colossal in their silliness that ever appeared in print. —*Through Nature to God*, p. 141.

very ably shown by Kant, although he thought that practical reason postulated it.'¹ If this style of argument is not dogmatism, then, to repeat Mr. McCabe's own words, 'we shall need to reconsider our moral terminology.'²

2. As to *assumptions*, they so constitute the native air of Haeckel's monism that examples would be superfluous by reason of their ubiquity. The following will serve as specimens: 'From the cosmological perspective of our monistic system these theorems have been amply demonstrated. The universe, or the cosmos, is eternal, infinite, and illimitable.'³ Upon which one must ask, seeing that we are bidden 'regard them critically,' how the writer knows the 'universe' to be a 'cosmos'; and how, bearing in mind, as Professor Stout rightly points out, that 'it must be remembered that our ignorance is still incomparably greater than our knowledge'⁴—which is surely more true of the 'universe' than of the contents of a human skull—

¹ *Wonders*, p. 488. Students will know how to appreciate this reference to Kant. An excellent summary of the case will be found in *Selections from the Literature of Theism*, by Drs. Caldecott and Mackintosh, pp. 179-255. Meanwhile Mr. Christie's remark (*Contemporary Review*, April, 1904, p. 498) that 'there is absolutely no proof that Kant ever doubted the doctrines of God, freedom, and immortality,' is most true and applicable. For the rest, Professor Paulsen, as an expert in Kantian philosophy, says: 'So viel von Haeckel dem historiker und kritiker im Gebiet der Philosophie. Man weiss wirklich nicht, worüber man mehr staunen soll, über dem Mangel an Kenntnissen, oder über den fröhlichen Leichtsinn, mit dem er von Dingen redet, von denen er nur von fern gehört hat.'—*Philosophia Militans*, p. 168. See also *Theism*, by Professor Seth, pp. 15-32.

² *Haeckel's Critics Answered*, p. 12.

³ *Biddle*, p. 5.

⁴ *Manual of Psychology*, p. 45.

how he knows the universe to be either 'eternal' or 'infinite.' And if it be 'infinite,' what else is signified by the addition of 'illimitable'? His only answer appears to be in the expansion of the same statement. Thus :

The case [as to a *perpetuum mobile*] is different, however, when we turn to the world at large, the boundless universe that is in eternal movement. The infinite matter, which fills it objectively, is what we call *space* in our subjective impression of it; *time* is our subjective conception of its eternal movement, which is, objectively, a periodic, cyclic evolution. These two 'forms of perception' teach us the infinity and eternity of the universe. That is, moreover, equal to saying that the universe itself is a *perpetuum mobile*. This infinite and eternal 'machine of the universe' sustains itself in eternal and uninterrupted movement, because every impediment is compensated by an 'equivalence of energy,' and the unlimited *sum* of kinetic and potential energy remains always the same.¹

The temptation to riddle this gaudy string of assumptions with pertinent queries, must be resisted for the sake of our main theme. Yet one is compelled to inquire why any writer, claiming to speak with scientific authority and philosophic precision, treats this 'world at large'—and it does not matter how large, seeing that only on the previous page he has himself termed it but 'a mote in the sunbeam, of which unnumbered millions chase each other through the boundless depths of space'—as a synonym for 'the boundless universe.' Which does he mean? That this little world is the 'universe,' or that the 'universe' is absolutely identical in all respects with this 'mote in a sunbeam'? If anything is meant,

¹ *Riddle*, p. 87.

it would seem to be the latter. In which case we take leave to say, alike in the name of science and of philosophy, that it is a 'boundless' assumption. The convenience, and indeed necessity, for Monism, of this assumption of the 'eternity of matter and motion,' will no more procure for them a philosophic pass, than would unlimited assurance on the part of a 'young man from the country' procure him *per se* a diploma from any respectable university. Meanwhile, as to the former—the 'infinite'—the addition of a few words more¹ from one who (apparently with good reason) claims to be thoroughly up-to-date, and in many points agrees with Professor Haeckel, may suffice to give us pause:

The idea of a universe infinite in extent, infinitely varied in character, is a commonplace. Yet, if we consider it closely, there has been very little to justify this belief. On the contrary, perhaps the most remarkable thing in the advancement of knowledge has been the fixing of limits in natural phenomena. To the conception of a finite and one day measurable universe we may then add that of a cosmos whose interchanges of energy are effected at a finite and measurable speed. At the present time there is nothing to indicate that an infinite universe exists.²

Whilst as to the *perpetuum mobile*, based on the absoluteness of the 'law of substance,' we shall do well to note that Professor Sir Oliver Lodge, an expert in his own realm quite equal to the biologist of Jena in his, explicitly declares that 'both the conservation of energy and the conservation of matter are doctrines very far from being axiomatic.'³

¹ See p. 59 above.

² *New Conceptions in Science*, by Carl Snyder, pp. 73, 83, 98.

³ *Hibbert Journal*, January, 1905, p. 321.

former, the suggestion is certainly like some others from the same source.¹ But most fathers and mothers will be surprised to learn that their 'infant,' when newly born, is 'unconscious'; as a rule, the contrary is pretty plainly indicated. Perhaps self-consciousness out of the non-self-conscious is what is really meant. A trifling difference, may be, to this writer and quoter, but a very real one to the 'serious thinker.' Moreover, even if the foetus in embryo were put alongside of the egg here, it would but serve to show that the 'childishness' (or worse) is on the part of the 'system' which can put unconsciousness in either, on the same level as that exhibited in a stone. It is, as usual, the evasion of the crux. What is wanted for a true philosophy, is not the 'growth' of the actual out of the potential,² but the origin of the potential out of the non-potential.

Assumption, however, is nothing unless thorough. So we are not unprepared to meet with the 'modest' avowal that 'no one now doubts that the development of the embryo is a mechanical process';³ which is just as true—and not one whit more—as to say that no one now doubts that Haeckel's monism is a mechanical process. For even if all that is vital were pronounced chemical, and all that

¹ In spite of the mighty boast on p. 13, 'I will give you pages throughout,' flavoured moreover with the sneer, 'Do not contract the slovenly and expensive habit of trusting a controversial writer,' no reference whatever is given as to where this assertion is to be found or its context. Mr. Mallock's real position may be most fairly judged from his latest work, *The Reconstruction of Belief*. He is, of course, utterly opposed to Haeckel's monism.

² v. p. 142.

³ *Haeckel's Critics Answered*, p. 58.

is chemical mechanical, from such forces alone, as we shall presently see, the embryo can no more thinkably be evolved, than Haeckel's *Riddle* out of a typewriting machine without a typist. Neatly, indeed, the assumption proceeds: 'The facts of heredity point wholly to a mechanical or bodily action'; where the 'bodily,' which necessarily includes the vital, mental, and all else that is human, is calmly assumed to be a mere synonym for the mechanical. Then, gathering courage for a larger leap, the next assertion is, 'The development of the mind on a cosmic scale, is still more clearly mechanical.' But what 'mind on a cosmic scale' really signifies, we have no hint. Mind, at its highest stage is, manifestly and necessarily, associated with personality. But the Monistic pantheism which spurns the Divine personality is, perforce, confined to the human. The 'cosmic scale,' then, can only connote the multiplication of human units. How that which assuredly is *not* 'clear' in regard to a single individual man, can become 'more clearly mechanical' for the millions of humanity, is but one of the myriad mocking riddles of Haeckel's monism.

When this particular problem before us is supposed to be solved by saying that 'there is not a single fact that compels us to go outside of the range of familiar cosmic forces to seek an explanation'¹ of the development of mind, the impressive sweep of the sentence may possibly carry away some unwary reader. But when he comes to himself

¹ *Haeckel's Critics Answered*, p. 58.

he will find that he is, as Haeckel's countrymen graphically say, 'im Stiche gelassen.' For, setting aside as 'childish' the intended assumption that mind is nothing but mechanism, this assertion may well stand as true, in the unintended sense that the 'cosmic force' with which we are most of all familiar is that of mind.¹ And every well-informed student knows that the 'growing tendency' of modern psychological science is to attach more and more significance to such a phrase as 'mind-force,' and to relegate 'world-force' and 'matter-force-reality'² to the same category as the 'mind-stuff' of Professor Clifford. That is to say, without mind, it is all 'stuff.'

3. Again. To catalogue all the *misrepresentations* in these works would require a volume to itself. One or two specimens will suffice as types of the rest. We are here concerned with the thought of God. It is to Christian theism that Haeckel's monism is most irreconcilably opposed. But how is the

¹ To quote Professor J. Ward: 'We may say, indeed, that agnostic monism here disposes of itself. Our one certainty is that which we have already reached in our examination of dualism, the unity in duality of experience. This I take to be the meaning of Huxley's words, "Our one certainty is the existence of the mental world." Mr. Bradley concludes his *Appearance and Reality* with the words: "Outside of spirit there is not, and there cannot be, any reality, and the more that anything is spiritual so much the more is it veritably real." I am content to abide by this.'—Ward, *Naturalism*, &c. ii. pp. 219, 292.

² Here again one is forcibly reminded of Paulsen's remark, for it applies equally to the writer and the translator of *The Riddle*: 'Ja, er hat eine, beinahe möchte man sagen beneidenswerte, Gabe mit einer Formel, einem Wort, einem neugeprägten Kunstausdruck sich eine absolute Befriedigung hinsichtlich der schwierigsten Probleme zu verschaffen.'—*Phil. Mit.*, p. 127.

conception of God here represented? 'A Creator without organs—a gaseous being'¹; 'a personal God as an invisible—properly speaking, gaseous—being'; 'represented after a purely human fashion in his thought and work.'² 'In reality even this immaterial spirit is not conceived to be incorporeal, but merely invisible, gaseous. We thus arrive at the paradoxical conception of God as a gaseous vertebrate.'³ And all this, be it observed, represented not as the belief of some poorly instructed believer, but as the fact when 'we are imagining ourselves to be in the church of a liberal Protestant minister who has a good average education, and who finds room for the rights of reason by the side of his faith.'⁴ In face of such pitiful falsities, it becomes difficult indeed to find room for courtesy in estimate.⁵

On the same level is the assertion elsewhere that 'the monistic idea of God—as the infinite sum of all natural forces, the sum of all atomic forces and ether vibrations—is *alone compatible* with our present knowledge of nature.'⁶ This 'can never recognize in God a personal being, or, in other words, an individual of limited extension in space, or even of human form.' To reply to such cartoons were an insult to the intelligence of any ordinary Sunday scholar. But that the reader may estimate for

¹ *Riddle*, p. 93.

² p. 5.

³ p. 102.

⁴ p. 4.

⁵ On most careful reflection, 'mendacities,' as employed in *The British Weekly*, does not seem too strong a term.

⁶ *Confession*, p. 78. Well may Paulsen remark: 'Endlich wäre zu der im Vorwort zur Schau getragenen Bescheidenheit ein Fragezeichen zu machen, oder auch zwei oder drei: im Buch spricht Unfehlbarkeit.'—*Phil. Mit.*, p. 127.

himself the kind of representation of Christian theism which modern 'rationalism,' with its boasted 'search for truth,'¹ deems it 'scrupulously honest' to fling across the land, we will give one specimen more from the master, and another from the pupil.

Dualistic creation.—God restricted his *interference* to two creative acts. First he created the inorganic world, mere dead substance, to which alone the law of energy applies, *working blindly and aimlessly* in the mechanism of material things and the building of the mountains; then God *attained intelligence* and communicated it to the purposive intelligent forces which initiate and control organic evolution.²

The notion of a creative act—the notion that, at the *mere expression of a wish* on the part of *some* infinite being, particles of dead matter *scrape themselves together* without any physical impulse, and, though they are incompetent to see the design they are to execute or the end of their individual movements, *build themselves up* into the intricate structure of living protoplasm—is a perfect world of mysteries instead of being an explanation.³

Such caricatures of Christian belief are best treated with the silence of contempt. But the same reckless misrepresenting appears yet again in regard to the relation of God to the universe, including our own world. The false report here, indeed, is double. First as to Christian theism, we are told that 'the extra-mundane God of dualism leads necessarily to theism.'⁴ 'In this view God is distinct from and opposed

¹ Mr. McCabe's fine sentence must never be forgotten: 'Truth is a frail spirit that must be sought with patience and calm investigation. Its pursuit should be conducted with dignity and especially with scrupulous honesty.'—*Haeckel's Critics Answered*, p. 125.

² *Riddle*, p. 84.

³ *Haeckel's Critics Answered*, p. 44.

⁴ *Riddle*, p. 102.

to the world, as its creator, sustainer, and ruler. He is always conceived in a more or less human form, as an organism which thinks and acts like a man'—'placed over against the material world as an external being.'¹ Now, that such a conception as this fairly represents the deism of the eighteenth century, or possibly the thoughts of some uninstructed Christians to-day, may be conceded. But do these represent the theism which is taught to-day 'in the church of a liberal Protestant minister who has a good average education'? Every one who is not wilfully ignorant, knows to the contrary. When Hæckel writes, as if it were something new, that 'God must be placed as a divine power or moving spirit within the cosmos itself,'² he is not only stating what the Bible declares from the beginning, but what is so increasingly emphasized in modern Christian teaching, that quotation to illustrate it were alike unnecessary and overwhelming.³

Yet, again, even grosser misrepresentation finds

¹ *Riddle*, p. 98; *Confession*, p. 15. ² *Ibid.*

³ Take but two brief specimens. 'It remains, then, that we confine ourselves to the analogy of our personal experience, and conceive of God as at once transcending and immanent in nature.'—Illingworth, *Divine Immanence*, p. 40. 'But is not the conception of God as eternally immanent in an eternal universe pantheism? Yes, and no. Certainly it is a phase of pantheism. But the system of doctrine usually called pantheism denies personality, free will, morality, alike in man and God. In the line of thought which we have followed, on the contrary, we have started with the personality of man, and at every stage have firmly held to the personality of God. The supreme truth of theistic philosophy, to which such a query points, is that matter has no existence apart from the continuous energy of divine will—"upholding all things by the word of His power."—Dr. Rice, *Christian Faith in an Age of Science*, p. 319

prominent place on the pages of Haeckel's champion. Thus his readers are informed that 'Mr. Williams and others expressly state they are monists, that *God is not distinct from nature*'¹; and, on the next page, that 'the sermon preached on the last Association Sunday at Southport by the Bishop of Ripon points unmistakably to the same tendency—even to a pantheistic *identification* of God with the forces at work in nature.' Whilst later on, emboldened into utter recklessness, this writer says: 'What, then, is the new feature? It is that these modern apologists have been driven to *deny that there is any real distinction* between God and nature.' But the final assertion is: 'We saw that for most of the cultured apologists this existence of God merely means a principle immanent in nature and *not distinguishable* from it.' The process of evolution in Monistic thought is here interestingly exhibited. First it is Mr. Williams, then the Bishop, then 'others,' now 'most of the cultured apologists.'² It certainly illustrates Monism's 'search for truth.' We speak of such sentences as 'misrepresentations' for courtesy's sake; they really merit a shorter description. At all events no falsier statements could be printed. The teaching of the Bishop of Ripon is too well known to call for comment.³ But as regards

¹ p. 69. Italics mine.

² pp. 78, 124.

³ Save to say that, having been myself also one of the 'special' preachers at Southport on the occasion specified, the report of the sermon referred to came immediately into my hands. It no more warrants such an estimate as that just quoted, than it does the polytheism of Professor James.

Mr. Williams, seeing that his published discussion will be unknown to many, it may be well to allow him here to contradict such a false representation in his own words :

It is not for dualism that I am arguing. I believe in the unity of the world, and *a kind of monism* is probably the truest solution of the riddle, but I must *find the unity in spirit*, not in matter. With Haeckel the physical interpretation prevails throughout and covers the whole ground, banishing God, the reality of the human soul, denying all freedom of will and responsibility for conduct, and dispelling for ever the 'myth' of immortality. Are these conclusions fairly based upon proved facts? I emphatically deny it. I assert that they rest upon assumptions which require more credulity to accept them than all the superstitions of the religions of the world.¹

And in answer to a question propounded by Mr. R. Blatchford, 'Do you believe that God is a personality who interferes in human affairs?' the same writer says:

It depends upon what is meant by 'personality' and by 'interference.' By a personal God I mean Self-conscious Being, intelligent, with power of self-determination. In such a God I do most certainly believe. I think of Him as immanent in His world, and therefore not as interfering from outside. Any conception of God has its difficulties: our best thought is probably but a symbol of the truth. But I cannot think of God as less than personal, or He would be less than myself: and super-personal for me at present has no meaning.'

From the above, the reader will know how to estimate Monism's 'scrupulous honesty' in dealing with the 'frail spirit of truth.' Who the other 'cultured apologists' are, we need not inquire. There is not a single Christian teacher living who either teaches or believes that 'God is not distinct from nature.'

¹ *Does Science destroy Religion?* by Rev. T. Rhondda Williams, p. 8.

² *Ibid.* p. 31.

4. It would be unhelpful here to catalogue the *oneers* with which the works we are considering abound. Suffice to say that the reiterated contumely poured upon Kant in regard to his 'biological ignorance,' 'self-contradiction,' 'metamorphosis from the young severely critical Kant to the older dogmatic Kant,' &c., may safely be left in the hands of those who know him.¹ Whilst as to the Christian doctrine of God, Monism may rest assured that the papal pronouncements that 'this untenable myth was refuted long ago by scientific cosmogony,'² and that 'in the dogma of the Trinity every emancipated thinker finds, on impartial reflection, an absurd legend, which is neither reconcilable with the first principles of reason, nor of any value whatever for our religious advancement,'³ will no more avail anything against the truths on which these doctrines rest, than the ravings of a 'Parallax' will subvert modern astronomy.

II. When the above vagaries are subtracted from Professor Haeckel's anti-theism, there seem to be five main counts in his indictment, which merit brief consideration. These are, (1) the absence of any witness to the divine in nature; (2) the sufficiency of chance

¹ See p. 26 above. Referring to this Mr. Christie says with reason (*Contemporary Review*, April, 1904, p. 498), 'Unfortunately this is not the only instance of Haeckel's ignorance enabling him to cast discredit on a writer whose views are antagonistic to his own. In one place he asserts that Descartes was guilty of intellectual dishonesty in crediting man with a soul which he denied to the brutes! This is not simply a slander, but a blunder. The list of such inaccuracies might be extended indefinitely.'

² *Riddle*, p. 98.

³ p. 101.

(in his sense), or 'iron laws' plus mechanism, to explain everything; (3) the impossibility of divine personality; (4) 'dysteleology'; (5) the contradictions of Providence. The exhaustive treatment of each of these here, is neither possible nor attempted. Our task is simply to show the inconclusiveness of such Monistic indictments, with a view to fuller statements elsewhere and hereafter.

1. The first two of these counts plainly give us but the negative and positive sides of one and the same thought. They are, of course, reiterated on many pages:

Astronomy, cosmogony, geology, meteorology, and inorganic physics and chemistry are now absolutely ruled by mechanical laws on a mathematical foundation. The idea of design has wholly disappeared from this vast province of science. . . . Nowhere in the evolution of plants and animals do we find any trace of design, but merely the inevitable outcome of the struggle for existence, the blind controller, instead of the provident God, that effects the changes of the organic forms by a mutual action of the laws of heredity and adaptation. . . . Thus we have got rid of the transcendental design of the teleological philosophy of the schools, which was the greatest obstacle to the growth of a rational and monistic conception of nature.¹

2. Similarly in regard to the positive assertion of 'mechanism' as the sufficient explanation and cause of all phenomena. Speaking generally,

The peculiar chemico-physical properties of carbon are the sole and the mechanical causes of the specific phenomena of movement

¹ *Biddle*, pp. 92, 94, 95; *Wonders*, p. 105, &c. Mr. McCabe naturally follows suit. The facts of biological evolution 'make it impossible for us to see a divine presence and guidance, at least during the process.' 'Beauty is only the effect of distance and position, shown by science to be a purely accidental outcome of the action of natural agencies.'—*Haeckel's Critics Answered*, pp. 75, 76, 79, &c.

which distinguish organic from inorganic substances, and which are called life, in the usual sense of the word. . . . Assigning mechanical causes to phenomena everywhere. . . . Mechanism alone can give us a true explanation of natural phenomena, for it traces them to their real efficient causes, to blind and unconscious agencies, which are determined in their action only by the material constitution of the bodies we are investigating.¹

Whilst more especially as to the organic world :

These curious teleological hypotheses, and the objections to Darwinism generally accompanying them, do not call for serious scientific refutation to-day.²

The later volume only emphasizes the same idea :

The struggle for life is itself a mechanical process. This teleological mechanism has no need of a mysterious design or finality ; it takes its place in the general order of mechanical causality which controls all the processes of nature in the universe. Natural finality is only a special instance of mechanical causality.³

Such statements as these are really met, with unanswerable force, by Dr. Momerie's plain but scientific reply :

The very fact that my body is a 'mechanism' drives me irresistibly to the conclusion that it is the work, directly or indirectly, of a mechanician, as much superior to a human mechanician as that body is superior to anything which a man can make.⁴

This whole question will, however, be more fully considered presently, in the light of the additional force which Haeckel's special advocate believes he has imparted to them.

3. As to the difficulty of conceiving the Divine personality, on which such stress is laid, when it is disentangled from the coarse materialism and crass

¹ *Riddle*, p. 83, 91, 92.

² p. 94.

³ *Wonders*, pp. 275, 377-8, 404, &c.

⁴ *Personality*, p. 125.

deism with which Haeckel—not Christian theology—has encumbered it, no fairer or more final reply can be conceived than his own words. We are asked, ‘How can the belief in God, freedom, and immortality determine one’s whole view of life as a postulate of practical reason if we cannot form any definite idea of them?’ And the answer is, In the same way in which our whole view of science, as a postulate of rational thought, is determined by the conceptions of Monism, if we accept them; for as to the idea we can form of its foundations, what can be plainer than this writer’s own acknowledgements? Take, for instance, the belief in ‘substance.’ This is assuredly as essential to Monism as belief in God is to Christianity. Can we, then, form ‘any definite idea’ of it? Let Haeckel himself tell us:

We must even grant that this essence of substance becomes *more mysterious and enigmatic* the deeper we penetrate into the knowledge of its attributes, matter and energy. We do not know the ‘thing in itself’ that lies behind these knowable phenomena. But why trouble about this enigmatic thing in itself, when *we do not even clearly know whether it exists or not*?¹

Or is it ‘the mechanism of the atom’² to which ‘monism strives to carry back all phenomena without exception’? What ‘definite idea,’ then, can we form of it? Let us listen again. ‘We are by no means in a position to form *any satisfactory conception* of the exact nature of these atoms and their relation to the general space-filling ether.’³ ‘We have not as yet obtained any further light as to the real nature of these original

¹ *Riddle*, p. 134.

² See p. 178, note.

³ *Confession*, p. 19.

atoms and their primal energies.' And yet Monism is absolutely sure that every other 'ism' than itself is a delusion. The queries which must certainly be answered before we can have 'any definite idea' of the foundations upon which Monism professes to build, are certainly such as he suggests. 'How is this primary mass related to the cosmic ether? Do these two original substances stand in fundamental and eternal antithesis to one another; or was it the mobile ether itself, perhaps, that originally engendered the heavy mass?'¹ But Haeckel's own reply to such questions is quite sufficient:

I believe that the solution of these fundamental questions still lies as yet beyond the limits of our knowledge of nature, and that we shall be obliged for a long time yet to come to content ourselves with an 'ignoramus'—if not even with an 'ignorabimus.'²

So that it will only be consistent on the part of Monism to wait until then, before it claims to be accepted as the theory of the universe. But as Professor Haeckel refers in appreciative terms to the work of Mendeléeff—who is well known to chemical students as the joint author of the periodic law that bears his name—it may be interesting to take his testimony as to the 'primary prothyl' which is going soon³ to solve all difficulties by 'empirical proof.' Says Professor Mendeléeff:

Being unable to conceive the formation of the known elements from hydrogen, I can neither regard them as being formed from the element *x*, although it is the lightest of all the elements. I cannot admit this, not only because no fact points to the possibility

¹ *Confession*, p. 29.

² p. 30.

³ p. 28, 29.

of the transformation of one element into another, but chiefly because I do not see that such an admission would in any way facilitate or simplify our understanding of the substances and phenomena of nature. And when I am told that the doctrine of unity in the material of which the elements are built up responds to an aspiration for unity in all things, I can only reply that at the root of all things a distinction must be made between matter, force, and mind. . . . The atoms of even the lighter elements forming the ordinary substance being several million times heavier than those of ether, they are not likely to be greatly influenced in their mutual relations by its presence. Of course there are still many problems to be solved, but I think the majority of them are unfathomable.¹

From which it is manifest that if Monism is to wait, as it is suggested Christian teaching should, for a 'definite idea' of its foundations, we shall not hear much more of it. Meanwhile it is manifestly true that we can form a sufficiently definite idea of God, freedom, and immortality, to determine our whole view of life as an opportunity for the development of human character. No nobler result is needed to justify them; whilst if it be objected that there are many differences between theologians, at least they are no greater than those to which Haeckel refers as connected with science, when he writes:

The vast structure of science tends more and more to become a tower of Babel, in the labyrinthic passages of which few are at their ease, and few any longer understand the language of other workers.²

So that Christian theology may well postpone its suicide until it witnesses that of science. As a

¹ *A Chemical Conception of the Ether*, pp. 32, 44.

² *Wonders*, p. 79.

sufficient summary of the case, let us repeat and complete a quotation from Dr. Illingworth :

It remains, then, that we confine ourselves to the analogy of our personal experience, and conceive of God as at once transcending and immanent in nature, for, however incomprehensible this relationship may be, we know it in our own case to be a fact, and may legitimately infer its analogue outside ourselves.¹

3. In regard to the hackneyed 'difficulty of conceiving an infinite personality,' all that need here be said is, in the words of Hermann Lotze, the eminent German philosopher :

In point of fact we have little ground for speaking of the personality of finite beings ; it is an ideal, and, like all that is ideal, belongs unconditionally only to the infinite. Perfect personality is in God only ; to all finite minds there is allotted but a pale copy thereof : the finiteness of the finite is not a producing condition of this personality, but a limit and hindrance of its development.²

If, then, God is as real to us as we are to ourselves and to each other, that will satisfy all the requirements of Christian doctrine.

4. Under the term 'dysteleology,' Professor Haeckel includes,

All those significant biological facts which in the most striking fashion give a direct contradiction to the teleological idea of the purposive arrangement of the living organism. This science of rudimentary, abortive, arrested, distorted, atrophied, and cataplastic individuals is based on an immense quantity of remarkable phenomena which were long familiar to zoologists and botanists but were not properly interpreted and their great philosophic significance appreciated until Darwin.³

¹ *Divine Immanence*, p. 40.

² *Microcosmus*, ix. 4, § 4. The reader will find an instructive as well as concise statement of the case in Dr. Rashdall's *Personality, Human and Divine*, included in *Personal Idealism*, edited by Henry Sturt, pp. 369-93. See also Dr. Illingworth's valuable booklet (published now at sixpence) under the same title.

³ *Riddle*, p. 94.

Be it so. The name may be a useful one, but the thing signified is of weight, so far as the thought of God is concerned, mainly in two directions. The first question arising is whether the occurrence of these phenomena necessarily rules out all thought of design, on the ground that—in the choice language of Mr. Mallock¹—‘a God who could have been guilty of them would be too absurd, too monstrous, too mad to be credible.’ The second is whether, more especially in regard to humanity, the suffering sometimes involved—e.g. through the presence in the body of the vermiform appendix, which ‘is not only useless, but extremely dangerous, so that inflammation of it is responsible for a number of deaths every year’—does not altogether nullify the Christian doctrine of Providence. The former of these is especially taken in hand by Mr. McCabe, and will be considered in a moment as part of a larger whole. Suffice here to ask why, if Mr. Darwin has shown these strange organs, &c., to be but parts or by-products of the great process of evolution, they should be accounted contradictions of teleology, until it be shown that evolution *per se* and teleology are necessarily opposed. That this is not the case,

¹ *Religion as a Credible Doctrine*, p. 177. In this work the writer poses as a defender of Christian faith, and certainly strives hard to produce the impression that all other advocates of Christian truths are altogether void of intelligence. But the judgement meted out to him by Mr. McCabe appears to be richly deserved: Does he not see how natural and logical atheism seems, when one sweeps aside all theistic proof on the one hand and recognizes these dark features of the universe on the other? For once I find myself entirely in accord with Haeckel's chivalrous defender.—*Haeckel's Critics Answered*, p. 75.

having been again and again pointed out by those most competent to speak, from Darwin himself to Huxley, it is perfectly competent for the Christian theist who is also an evolutionist, to assert that it is evolution itself which prevents these phenomena from being 'a direct contradiction' to Divine design, inasmuch as the design is manifest in the whole of which these are but subsidiary parts.¹ A more capable witness could scarcely be found than the late Dr. W. B. Carpenter, when he wrote:

The doctrine of natural selection leaves untouched the evidence of design in the original scheme of the organized creation, while it transfers the idea of that design from the particular to the general, making all the special cases of adaptation the foreknown results of the adoption of that general order which we call law.²

Such expressions might be easily multiplied, were they necessary.

5. Before entering, however, upon the consideration of the general subject of directivity in nature, Haeckel's objection to Christian theism on the ground of the sufferings and calamities which contradict Providence, calls for a moment's heed. It is, of

¹ So far as relates to rudimentary organs, Mr. Aubrey L. Moore (*Science and the Faith*, p. 193) well points out that it was Huxley himself who showed that Haeckel's allegation proved too much: 'For either these rudiments are of no use to the animals, in which case they ought to have disappeared, or they are of some use to the animals, in which case they are of no use as arguments against teleology.' And when Dr. Asa Gray wrote, 'Let us recognize Darwin's great service to natural science in bringing back to it teleology; so that instead of morphology versus teleology, we shall have morphology wedded to teleology,' Darwin himself replied, 'What you say about teleology pleases me especially.'

² *Modern Review*, October, 1884, p. 700.

course, easy for any one to state such a case in vivid language. Probably that of Haeckel himself will be sufficiently forceful:

It is just as impossible for the impartial and critical observer to detect a wise Providence in the fate of individual human beings, as a moral order in the history of peoples. Both are determined with iron necessity by a mechanical causality. . . . Belief in a loving Father who unceasingly guides the destinies of 1,500,000,000 men on our planet, and is attentive at all times to their millions of contradictory prayers and pious wishes, is absolutely impossible. That is at once perceived on laying aside the coloured spectacles of 'faith' and reflecting rationally on the subject.¹

Now, it is quite unnecessary to reinforce this with the distorted and superficial sensationalism of Mr. Mallock, which is quoted with such gusto by Haeckel's exponent, to the effect that the facts represent God as 'a scatter-brained, semi-powerful, semi-impotent monster,' &c.² All thoughtful Christians sympathize with the difficulty Haeckel specifies—though they decline to adopt his manner of stating it—when he refers to the premature death of the brilliant young physicist Heinrich Hertz as 'one of those brutal facts of human history which are enough of themselves to destroy the untenable myth of a wise Providence and an all-loving Father in heaven.'³ If the popular advocates of 'Rationalism' dwelt upon such facts—the reality and tragic number of which from our present standpoint no one questions—with more reverence and less relish, with more genuine tenderness and less revolting truculence, they would express quite as truly the perplexity of belief as of

¹ *Ibid.*, p. 97. ² *Haeckel's Critics Answered*, p. 75. ³ *Riddle*, p. 80.

unbelief. There is undeniable force in Mr. McCabe's remark that herein 'most teleologists retreat into mystery.' Seeing, however, that all Monists are also compelled not only to 'retreat' there, but to stay there without any hope whatever of deliverance, the semi-sneer is hardly consistent; and especially when we reflect that such 'retreat' of the Christian teleologist is as rational as it is religious, and for the following reasons, amongst others which must here be omitted.¹

1. Mystery in so vast a theme, is the only reasonable attitude for the human mind. The assumption that there can be no Divine Fatherhood, unless it be manifested to us in precisely the way we think best or necessary, for each man or for humanity, is but a colossal impertinence on the part of creatures of whom it is and must be for ever true that 'our science is a drop, our ignorance a sea.'² The Bible, which more than any other religious writing on earth affirms the Divine Fatherhood, speaks also more than any other sacred books practically, reasonably, reverently, upon the necessity of remembering our own insignificance as judges of a universal plan. Such an attitude is sufficiently confirmed in the nursery of every well-ordered home amongst us.

2. The difficulty, moreover, as above stated, is manifestly a human one, and not a reflection upon the

¹ For further consideration of this theme I must refer the reader to my *Miracles of Unbelief*, pp. 72-7, and to *Clarion Fallacies*, pp. 84-95, where the popular representations of Mr. Blatchford in his book *God and my Neighbour* are plainly met.

² Professor W. James, *The Will to Believe*, p. 54.

divine at all. It arises, as the words above quoted abundantly show, out of the very anthropomorphism which the writer so oft professes to scorn. On the supposition that God in Christian doctrine only signifies a magnified man, belief in Providence is confessedly impossible. Nor can it be denied that many careless utterances in pulpits, and popular notions in church life, lend colour to such a suggestion. But Christian doctrine is no more responsible for such crass excess of anthropomorphism, than science is for Huxley's Bathybius. The expressions of the Bible which are suited to the child-stage of faith, are perfectly guarded from the dangers of literalism for the mature mind. The 'Father,' on Christ's lips, was never a mere synonym for the earthly parent. If God be God, as assumed by the Old Testament, as represented still more sublimely in the New Testament, and as enlarged quantitatively, though not qualitatively, by modern knowledge, then there is no more difficulty in the divine nature being 'attentive at all times' to the needs and prayers of men—and their contradictoriness is quite irrelevant—than there is in a human parent's equal love for several children, or an earthly ruler's solicitude for all his subjects.

3. But the above-quoted indictment is altogether nullified, or rather falsified, by its utterly unwarranted, immeasurable, and unpardonable omissions. The first of these we find in its crassest form in the words of Haeckel's exponent, to the effect that 'it is better to say that when *all* the tangible evidence is on *one*

side, *and none on the other*, we do not regard it as a fair dilemma.'¹ How, in reference to the twin mysteries of good and ill with which this world abounds, any man claiming honesty and intelligence can write such a sentence, is one of the many 'riddles' of Monism which only courtesy leaves uncharacterized. At least it must be affirmed, with the utmost possible plainness, that, as a representation of the 'mystery' of Providence in human life, it is as false as false can be. The truth is that, employing as much as possible the same language, almost all the tangible evidence is on the side of divine benevolence, and comparatively 'none on the other.' With the utmost deliberation it is to be avowed that all these recent gruesome indictments, from Mr. J. S. Mill's famous essay on 'Nature' to Tennyson's too-oft-quoted couplet about 'nature red in tooth and claw,' on to the sensational plausibilities of *The Clarion*, are alike one-sided exaggerations. With one consent they all emphasize the exceptions, but have no eye for the rule, cannot see the wood for the trees, and declare the sun to be dark and cold by reason of its spots.

Thus Haeckel refers popularly to disease as 'a baneful disturbance of the normal activity of the body.'² And yet, while the 'baneful disturbance' is assumed to tell irresistibly against faith in divine benevolence, the normal, by means of which the overwhelming majority of the 1,500,000,000 of human beings so enjoy life that suicides are comparatively rare monstrosities, is nothing! This may pass for philosophy when it has

¹ *Haeckel's Critics Answered*, p. 75. Italics mine. ² *Wonders*, p. 481.

been demonstrated that 'natural selection,' arising out of matter which endowed itself—of necessity—with all convenient potentialities, accounts for everything that makes human life worth living. But not until then. Meanwhile, it is but the 'childish' impertinence of Monism, to affirm that 'the world is crowded with features which forbid us lightly to admit a controlling supreme intelligence. There is no answer to this.'¹ There is overwhelming answer to it. For, in the first place, no Christian theist desires 'lightly' to admit anything. Indeed, the very thing against which he protests, is the lightness with which assumptions are expanded into dogmatisms and made lurid with contumely. In the second place, the strong confidence of this avowal is 'gravely misleading,' by reason of its exaggeration. That there are facts in life which are perplexing to our limited intelligence, no Christian believer denies; but he does strenuously deny that life is 'crowded' with 'forbidding features.' Such an estimate is no more true than it is to say that our great cities are 'crowded' with drunken men and burglars. There are such, we know too well; but they are only the exceptions which make vivid the rule. Yet are they no more really the exceptions, as against the norm of law-abiding citizens, than are the features which forbid faith in a supreme, aye, and benevolent intelligence, as compared with those that suggest, and indeed, one might say, compel it, for every rational mind. Dr. Martineau's question, 'If it takes mind to construe the world, how can it require

¹ *Haeckel's Critics Answered*, p. 74.

the negation of mind to constitute it'? is not only unanswered, but unanswerable.¹ To which Dr. W. B. Carpenter did well to add that 'science, being the intellectual interpretation of nature, cannot possibly disprove its origin in mind; and if rightly pursued, leads us only to a higher comprehension of the bright

¹ When Dr. Iverach makes a statement to the same effect (*Haeckel's Critics Answered*, p. 79) Mr. McCabe modestly points out 'the inanity of the assertion,' by asking 'whether even a chaotic and disorderly universe would not need an intelligence to understand it'? One would really have expected something better from an ex-professor of philosophy. For the least thought shows at once that if a universe were apprehended as 'chaotic' and 'disorderly,' it could only be by comparison with the conception of the orderly, already present to the assumed 'intelligence.' No conception of the 'chaotic and disorderly' is possible to any 'intelligence,' save by contrast with its opposite. Whence, then, could such an intelligence derive such a conception in a 'universe' in which all was chaos? This is only the old Monistic trick of slipping into the box what is to come out of it, whilst calling special attention to its emptiness. But to make things better—or worse—we are told that 'if he means by intelligible that it is orderly and systematic, he is simply begging the whole question.' What, then, does this writer mean? Has he not himself just quoted with approval (p. 73) Mr. Mallock's words, 'We realize that order, instead of being the marvel of the universe, is the indispensable condition of its existence,' and emphasized it by adding 'that is certainly the feeling that the universe inspires in men of science'? Are we to understand that Monism denies that the universe is orderly and systematic? If so, what becomes of the avowal of his master (*Riddle*, p. 97) that all things 'are determined with iron necessity by a mechanical causality which connects every single phenomenon with one or more antecedent causes'? Or what does Büchner mean when he says (*Last Words on Materialism*, p. 32), 'The deeper science enables us to penetrate into the character of the laws and forces of nature, the more clearly we perceive their majestic and admirable simplicity'? If an instance of truly 'begging the whole question' be desired, the reader will surely find it a couple of sentences further on, where we are told that 'we have seen how out of a *simple* matter and force have come an immense variety of things. These things were *only implicitly* in the primitive prothyl. Similarly, the evolution of thought only shows that thought was implicitly in the first cosmic principles.' Indeed! 'Simple' and 'only implicitly'! Then, if

designs, a more assured recognition of the working of the sovereign will, of its divine Author.'¹

If life is 'crowded' with anything, it most certainly is with 'features' which emphatically forbid us to dismiss as lightly as Haeckel bids us, our belief in the 'divinity that shapes our ends, rough hew them how we will.' It must, however, suffice here to quote the conviction of one especially qualified to speak, both as being entirely without 'orthodox' bias, and fully acquainted, through many years of experience as a physician, with the mystery of pain. The late Sir Henry Thompson wrote :

I was now assured, by evidence which I could not resist, that all which man, with his limited knowledge and experience, has learned to regard as due to supreme power and wisdom is also associated with the exercise of an absolutely beneficent influence, over all living things of every grade which exist within its range. And the result of my labour has brought me its own reward, by conferring emancipation from the fetters of all the creeds, and unshakable confidence in the power, the wisdom, the beneficence, which pervade and rule the universe.²

so simple that the thought-world of to-day was *not* present in the 'prothyl,' it is a definite creation out of nothing. Which is not science. But if it was then potentially present, how could that potentiality have come out of nothing? And if a cause for it also must be found, what could such a cause be to be adequate, save an intelligence at least equal to that employed in seeking to explain it now?

¹ *Modern Review*, October, 1884, p. 700. Similarly Dr. J. A. Fleming says: 'Intelligence in us, therefore, finds something corresponding to itself in external nature on which it can operate. But intelligence can only respond to intelligence, and that which intelligence can produce. Hence the intelligibility of nature is a proof that intelligence other than our own is at the back of it; in other words, that it is the product of mind.'—*The Evidence of Things Not Seen*, p. 18, by J. A. Fleming, M.A., D.Sc., F.R.S., Professor of Electrical Engineering, University College, London.

² *The Unknown God*, p. 85.

This, as the manifest rule—exceptions apart—in our world's life, is quite sufficient reply to the sensational and one-sided exaggeration above quoted.

4. There is also another element in the reasonableness of the Christian tenet, viz. its open avowal that the present system of Providence is not, and is not intended to be, complete in itself, but is inseparably connected with a future in which it is at least perfectly conceivable that many things which here seem to us irreconcilable with Divine Fatherhood, may be made plain. As we must return to this subject later, it is sufficient now to point out that neither its possibility nor its validity is in the least affected by the sneers¹ and sweeping dogmatism² with which it pleases Monists to treat such a 'larger hope.' For all those who accept it—and they are, as a whole, quite as intelligent and sincere as any 'Rationalists'—it enters very really into the alleviation of the present mystery. Not a few who sympathize with Professor Peake when he says, 'I am only one of many for whom the problem of pain constitutes the most powerful objection to a theism adequate to our deepest needs'³—find here good grounds for pausing before they jettison their faith at the wild behest of Monism. They rather cling the more to the hope which is the very crown of their manhood, and say with

¹ 'The critique of pure reason shows this treasured faith to be a mere superstition, like the belief in a personal God which generally accompanies it.'—*Riddle*, p. 73.

² 'The cosmic odds are against it.'—*Haeckel's Critics Answered*, p. 61.

³ *The Problem of Suffering in the Old Testament*, p. v.

Professor Lodge—even though it be sometimes out of a ‘darkness that can be felt’—‘If we could grasp the entire scheme of things, so far from wishing to shatter it to bits and then remould it nearer to the heart’s desire, we should hail it as better and more satisfying than any of our random imaginings.’¹

III. But before we pass on to consider Monistic objections to human immortality, it seems really necessary to estimate the special pleading of Haeckel’s exponent on this whole theme, as set forth in his chapter entitled ‘God.’ Apart from the contumely exhibited in the phrases already specified, there are three main matters for consideration: (1) the stress laid upon ‘a theology of gaps,’ as being discredited; (2) the self-sufficiency of Monistic evolution for the production and explanation of everything; (3) the alleged settlement of the whole question of theism, by one master-stroke of Monistic philosophy.

1. The references to a ‘theology of gaps’—a desire to ‘build on the temporary ignorance of science’—are many and emphatic.² So much so, that the ordinary reader might be led to think that (a) the filling up of these gaps would be absolutely fatal to Christian faith; (b) further, that this ‘filling up’ had already been accomplished by evolution; (c) also that

¹ *Hibbert Journal*, January, 1905, p. 331.

² Such as p. 58: ‘It is a plea for gaps and breaches in the mechanical scheme of the universe, building fallaciously (as usual) on the present imperfection of science.’ p. 111: ‘It is a philosophy of gaps. It is the familiar procedure of taking advantage of the temporary imperfectness of science,’ &c.

Monism had no 'gaps' at all in its 'system.' But each of these suggestions is altogether untrue. (a) As to the first, although there are many and real gaps to be considered, if they were all filled up to-morrow, it would by no means involve the nemesis of theism. This writer himself acknowledges that 'many of the ablest theistic apologists of our day (Ward, Smyth, Le Conte, Fiske, Clarke, &c.)—almost all, indeed, of those who have scientific equipment—grant the ability of science now, or in the near future, to cover the whole cosmological domain with its network of mechanical causation.' And although any one acquainted with the writings of these named will know that the word 'mechanical,' as here employed, is not true—for no one of these or any other theists would accept it¹—yet the statement may stand for a reminder that theism, as a rational principle, is not dependent upon the mysteries which baffle science, even though it may feel warranted in regarding them as special manifestations of the power which is ever immanent throughout.

As to (b), manifestly, the more complete the 'continuity' with which all things are alleged to be

¹ One of these may be taken as a fair specimen of the rest. Says Professor Le Conte: 'If the sustenance of the universe by the law of gravitation does not disturb our belief in God as the sustainer of the universe, there is no reason why the origin of the universe by the law of evolution should disturb our faith in God as the creator of the universe.'—This purging of religious belief from dross in the form of trivialities and superstitions, has ever been and ever will be the function of science. The essentials of religion it does not, it cannot, touch, but it purifies and ennobles our conceptions of Deity, and thus elevates the whole plane of religious thought.'—*Evolution and Religious Thought*, p. 277, 278.

evolved from any 'matter-force-reality,' the more surely must involution precede such evolution. Here is the dilemma from which Haeckel's monism can never escape. All things, 'without exception,' either were, or were not, potential, in the original 'substance,' or 'ether,' or 'prothyl,' from which they have been evolved. If such measureless potentiality then existed, an adequate cause must be found for it, quite as much as for the present cosmos. If such potentiality were not there, then evolution is nothing more than continued special creation by means of added capabilities.¹ Whence, then, came these? In one word, evolution without involution is unthinkable, and involution is unthinkable without God.²

(c) But since Monists make such an outcry against 'gaps,' one might well be led to suppose that Monism itself was free from them. No greater delusion could be imagined. The so-called 'monistic system'

¹ Thus the late R. A. Proctor—assuredly no champion of orthodoxy—said, 'There may not have been a single link in the chain of biological progression which—for aught science has proved to the contrary—might not have required special intervention to cause it to be precisely such as it was'—*Knowledge*, February 23, 1883.

² Schoeler's words, above quoted, deserve the emphasis of repetition: 'Wie kann aus Unbewusstsein jemals Bewusstsein entstehen? Eben-sowenig wie aus Nichts ein Etwas! Es kann sich aber nichts aus einem Dinge herauswickeln, was nicht schon vorher drin gesteckt hat.'—*Probleme*, p. 94, 95. So too Professor Henslow (*Present-day Rationalism Examined*, pp. 58, 43, 59) says, 'Once given protoplasm, we find all plants, animals, and man can have been evolved out of it.' But he is careful to add that 'neither Haeckel nor Lankester has brought us one whit nearer to the solution of the problem of the first origin of protoplasm.' Whilst even if protoplasm be granted, 'the power behind Nature is gradually forced upon us as a Being who is conscious as ourselves, and it is God who must be the source of the Directivity so apparent in all beings that are alive.'

is simply honeycombed with them. The chief English advocate himself says, 'There are, every biologist admits, scores of phenomena which are not as yet capable of explanation by mechanical forces.' And Professor Karl Pearson goes much farther in saying that 'an explanation is never given by science. The whole of science is description, mechanism explains nothing.' In which case Monism passes from being riddled with many gaps, into being all 'gap' and nothing else. Yet Professor Pearson writes as a redoubtable 'Rationalist.' But it is Professor Haeckel himself who freely acknowledges that his system is largely made up of gaps.

Both in theory and hypothesis, faith (in the scientific sense) is indispensable; for here again it is *the imagination* that fills up the gaps left by the intelligence in our knowledge of the connexion of things.¹

A very slight acquaintance with Monism, indeed, suffices to show how the whole vaunted 'continuity' of its 'system' is intersected with 'gaps'—and some of them veritably yawning chasms—which are spanned by nothing but these airy bridges of the imagination. Sometimes, moreover, it is Haeckel himself who stands by the bridge to point out for us its construction.

In thus declaring the action of bacteria to be purely chemical, and analogous to that of well-known inorganic poisons, I would particularly point out that this very justifiable statement is a *pure hypothesis*: it is an excellent illustration of the fact that we cannot get on in the explanation of the most important natural phenomena without hypotheses.²

¹ *Riddle*, p. 106; see also *Wonders*, pp. 90, 210, 378.

² *Wonders*, p. 210.

No student of science suggests for a moment the prohibition of hypotheses. Only it must be distinctly understood that they are such; and when any philosophic system depends upon such hypotheses for its very foundations, as well as its main supports, it should at least abstain from railing at another equally intelligent and intelligible system which merely employs them as windows.

As a matter of fact, Haeckel's monism is wholly built upon the most tremendous gap of all, viz. the 'pure' assumption of this 'matter-force-reality,' which so conveniently contains, in embryo, matter and motion and force and mind, and in short everything that Professor Haeckel and his friends can desire for the theoretical construction of their 'system.' Meanwhile, we have witnessed his own acknowledgment that 'we neither know this "essence of substance," the "thing in itself," nor do we even know that it exists.'¹ And yet, although we know neither its existence nor its essence,² Monism finds itself in a position to affirm, as its 'solid foundation,' that the following have been 'amply demonstrated'!

(1) The universe or the cosmos is eternal, infinite, and illimitable. (2) Its substance with its two attributes (matter and energy) fills infinite space and is in eternal motion. (3) This motion runs on through infinite time, as an unbroken development, &c.³

¹ *Riddle*, p. 134.

² 'Zu begreifen,' says Schoeler (*Probleme*, p. 97) 'was ausserhalb der Sphäre des Bewusstseins als davon unabhängiges, reales Objekt unseren Vorstellungen entspricht: das ist die Preisaufgabe der philosophischen Erkenntnis: allein vergeblich hat sich der menschliche Scharfsinn abgequält, hier einen Ausweg zu finden!'

³ *Riddle*, p. 5.

Here, therefore, we see the original and confessedly fathomless gulf, not simply spanned, but filled in, with Monistic imagination. But Mr. McCabe now comes to the rescue with indignation at the 'essential confusion,' the 'dreadful confusion,' of those who characterize the above as an affirmation. 'The essence of Haeckel's position is negative,' we are assured, for 'eternity is a negative concept.'¹ This we will presently bear in mind. For the moment the reader can judge for himself as to the 'negative' character of the assertions just cited. But the chivalrous champion continues:

Where shall we begin in a description of the growth of the universe? All that we can do is to set out, from a definite and recognized point, the nebula from which our particular solar system has been formed. By the action of *its inherent and natural forces* this nebular matter entered upon a process of condensation and disruption.²

Whence, then, came these wonderful 'inherent' and 'natural' forces, which have transformed 'nebular matter' into mind and man? There being *ex hypothesi* no preceding mind, no God, here yawns the gulf of gulfs upon which, as a magnificent palace in the clouds, with nothing beneath it save the Monistic imagination, Haeckelian monism rests.

But further. Suppose that we consent to let go the miracle of the 'inherent,' and turn to the appreciation of the 'natural forces,' where is the vaunted continuity of the Monistic philosophy in regard to 'force' itself? If we dismiss alike Schopenhauer,³ who

¹ *Haeckel's Critics Answered*, p. 31.

² p. 29.

³ 'Die endlose Mannigfaltigkeit der Formen, sogar die Färbungen der

can scarcely be accused of Christian sympathies, and Professor Le Conte,¹ whom Mr. McCabe not seldom refers to as if a sympathizer with his own materialistic-monistic-pantheism,² what have we left? Absolutely nothing but a gap. For we neither know what 'force' is, nor how it works.³ Professor Ward indeed reminds us that—

The old qualitative definition of force as whatever changes or tends to change the motion of a body, is discarded by modern dynamics, which professes to leave the question of such change entirely aside. Force, for it, means simply the direction in which, and the rate at which, this change takes place.⁴

So that Monism can offer us no explanation of the force required even to hold up a finger to a restless

Pflanzen und ihrer Blüten muss doch überall der Ausdruck eines ebenso modifizierten, subjektiven Wesens sein, d.h. der Wille als Ding an sich, der sich darin darstellt, muss durch sie genau abgebildet sein.—Schopenhauer, quoted by Schoeler, *Probleme*, p. 98.

¹ 'In a word, according to this view—the frank return to the old idea of direct divine agency, but in a new, more rational, less anthropomorphic form—there is no real efficient force but spirit, and no real independent existence but God.'—*Evolution and Religious Thought*, pp. 282, 283.

² How far this is from the truth Professor Le Conte's own words on the next page to that from which Mr. McCabe quotes will suffice to show. 'It will be objected that this is pure pantheism. Again we answer, yes. Call it so if you like, but far different from what goes under that name, far different from the pantheism which sublimates the personality of the Deity into all-pervading unconscious force, and thereby dissipates all our hopes of personal relation with him.'—*Evolution and Religious Thought*, p. 284.

³ Thus Adickes writes: 'Unsere innere Erfahrung lässt uns also, was das Wesen der "Kraft" betrifft, ganz im Stich. Sie giebt wohl Rätsel auf, löst aber keine. Dass Zusammenhänge da sind, lehrt sie wohl; aber welcher Art sie sind, wie man sie sich zu erklären, wie im einzelnen anschaulich vorzustellen hat, darüber schweigt sie. Gerade wo die Sache beginnt interessant zu werden, sinkt der Vorhang, und "Kraft" bleibt ein blosser Name, nur dazu gut, eine Lücke in unserer Erkenntnis zu bezeichnen.'—*Kant contra Haeckel*, p. 75.

⁴ *Naturalism and Agnosticism*, i. p. 61.

child¹; whilst the great 'matter-force-reality' which is to take the place of God in our thought of the universe, becomes nothing but matter-direction-rate-reality, in regard to which the first of the three component elements is, by confession, essentially unknown, and the other two are absolutely unaccounted for. Surely this is 'gap' enough for the final interment of any 'system.'

But it is only one out of many more which distinguish Monism. We have already seen the hollowness of its pretensions as to abiogenesis. Yet Haeckel says most truly, 'In view of the extraordinary significance which we must assign to the plasm—as the universal vehicle of all the vital phenomena—it is very important to understand clearly all its properties.'² Does Monism, then, give us the required understanding? Let the Professor himself tell us:

We may *confidently assume* that when archigony took place the conditions of existence were *totally different* from what they are now; but we are *very far* from having a clear idea of what they were, or from being able to reproduce them artificially. We are *just as far* from having a thorough chemical acquaintance with the albuminous compounds to which plasm belongs. *We can only assume* that the plasma-molecule is extremely large, and made up of more than a thousand atoms, and that the arrangement and connexion of the atoms in the molecule are very complicated and unstable. But of the *real features* of this intricate structure *we have as yet no conception.*³

¹ 'That the cortical process which sets in motion the muscles moving the finger should happen to be accompanied by the conscious volition to move the finger, without causal connexion between them, is in itself utterly unintelligible.'—Stout's *Manual of Psychology*, p. 51.

² *Wonders*, p. 127.

³ p. 367, 368. Italics mine—to help appreciation.

So useful and necessary is a large endowment of faith for the appreciation of Monistic philosophy !

Again, as to nutrition, one of the most important functions of the plasm :

*A large part of the several nutritive processes are explained without further trouble by the known physical and chemical properties of inorganic bodies ; for another part of them we have not succeeded in doing this. Nevertheless, all impartial physiologists now agree that it is possible in principle, and that we have no reason to introduce a special vital principle.*¹

Upon which we are obliged to remark that the first statement is not true, the second is misleading, and the third is both misleading and irrelevant. It is not true that the nutritive processes are 'explained without further trouble.' For in all such processes we have to do not with inorganic chemistry—even if we could 'explain' that, which we cannot—but with physiological chemistry, which is quite another matter. It is another because it is in inseparable connexion with life ; and Professor Henslow rightly points out that 'life is a dominant power, ordering, as it were, chemical combinations to be made, which the unassisted inorganic forces could not accomplish.'² Nor can Professor Haeckel object to this, seeing that we have witnessed his own acknowledgement, in regard to the 'microscopic structures which belong to the cell-body,' that 'these microscopic structures are not the efficient causes of the life-process, but products of it.'³

¹ *Wonders*, p. 217.

² *Present-day Rationalism*, p. 47.

³ One wonders, indeed, how an acute and vigorous mind could abstain in all honesty from following this acknowledgement out to its con-

Again, it is misleading to hint that the greater part—for that is what 'a large part' as set against 'another part' comes to—of the nutritive processes are explained by modern chemistry. And it is no less so—for it is an unwarranted assumption—to intimate that 'all impartial physiologists' practically endorse this principle. Moreover, it is quite irrelevant, for if they did, there would still be 'gaps' which no known facts of science are able to fill. Professor Le Conte is by no means alone in his attitude when he says:

Again I have used the term vital *principle*. I must justify it. I know full well that it is the fashion to ridicule the term as a remnant of an old superstition which regards vital force as a sort of supernatural entity unrelated to the other forces of nature. No one has striven more earnestly than myself to establish the correlation of vital with physical and chemical forces; and yet there is a *kind* of justification even for the term vital *principle*—much more vital *force*. There is a kind of reason and true insight in the personification of the forces of nature, and especially of vital force. All forces, by progressive dynamic individuation, are on the way toward entity, but fully attain that condition only in man.¹

How real a 'gap' remains open in regard to consciousness, we have also already noted. But the matter deserves special emphasis, alike by reason of the strength of unbiassed testimony, and the desperation of the attitude of Haeckelian monism. When, indeed, Mr. Herbert Spencer avows that—

clusions. For here we assuredly have the action of energy, that is, adopting his own synonym, of thought, preceding molecular movement—the psychical preceding the physical. If this in the microscopic cell, why not in the original nebula? What answer is there to Wundt (quoted above), 'So werden wir zu der Auffassung gedrängt, dass die physische Entwicklung nicht die Ursache, sondern vielmehr die Wirkung der psychischen Entwicklung ist'?

¹ *Evolution and Religious Thought*, p. 305. Author's italics.

No relation in consciousness can resemble or be in any way akin to its source beyond consciousness¹;

when Mr. Clodd declares that—

The gulf between consciousness and the movements of the molecules of nerve matter, measurable as these are, is impassable: we can follow the steps of the mechanical processes of nerve changes till we reach the threshold which limits the known, and beyond that barrier we cannot go. We can neither affirm nor deny, we can only confess 'our ignorance'²;

and when Professor Stout confirms such dicta by saying that—

When we come to the direct connexion between a nervous process and a correlated conscious process, we find a complete solution of continuity. The two processes have no common factor. Their connexion lies entirely outside of our total knowledge of physical nature on the one hand, and of conscious process on the other³;

we may well ask what Monism means by its avowed horror of 'gaps' and parade of 'continuity'? The desperateness which drives the Haeckelian champion to exclaim that 'the conscious *must* be derived from the unconscious' we have already estimated. Yet it may be well to cite an additional answer by Professor Poynting:

To say that any simple fact, any fact which so far stands by itself and is unlike others, *must* have hidden likenesses, *must* be explicable, and that the contrary is absurd, is an *a priori* mode of dealing with nature which she may at any time resent and refute by bringing our so-called explanations to nought.⁴

¹ *Principles of Psychology*, ii. § 472.

² *The Story of Creation*, p. 152.

³ *Manual of Psychology*, p. 47.

⁴ 'Physical Law and Life,' *Hibbert Journal*, July, 1903, p. 734, by J. H. Poynting, Sc.D., F.R.S., Professor of Physics in the University of Birmingham.

But no testimony as to the actual impossibility of what Monism declares 'must be,' can be more clear and emphatic than that which comes from Haeckel's native land, of which this sentence is a fair type :

Noch niemand, sei er Philosoph oder Naturforscher, ist es bis jetzt gelungen, den Begriff der Geistigkeit festzustellen, und ihr Wesen zu ergründen.¹

So, too, in regard to the whole theme of the 'ascent of man.' The popular notion which the works before us tend to propagate, is that the ascent of man is now a scientifically demonstrated continuity. But nothing can be farther from the truth.² To the objection that the gaps are numberless which can only be bridged over by the imagination, Mr. McCabe naïvely replies that—

No serious scientist questions to-day the evolution of the human body from that of a lower animal species. Yet the connecting links have disappeared. It is a scientific truth that intermediate forms do tend to disappear.³

The meekness with which this information is imparted cannot but provoke a smile, seeing that the far more relevant 'scientific truth' is that the 'intermediate forms,' which are most of all necessary to establish this evolution, never appear at all.⁴ Thus in regard

¹ Schoeler, *Probleme*, p. 81.

² Here again Professor Schoeler's statement is perfectly warranted: 'Wir berühren damit die Achillesferse der Descendenzlehre: die zahllosen klaffenden Lücken, welche die Stufen der angeblich stetigen Entwicklung auseinanderreißen, die nur durch hypothetische Konstruktionen überbrückt werden können.'—*Probleme*, p. 59.

³ *Haeckel's Critics Answered*, p. 46.

⁴ Into the details of this inquiry it is impossible to enter here. I must be content to refer the student to Schoeler's summary (*Probleme*, pp. 57-71). In a word (p. 60), 'Das alles schmeckt also nicht nach

to Haeckel's 'ancestral line of the human pedigree,' in twenty-five stages,¹ M. de Quatrefages remarked that 'not one of the creatures exhibited in this pedigree has ever been seen, either living or fossil. Their existence is based entirely upon theory.' And Du Bois Reymond was cruel enough to affirm that 'man's pedigree as drawn up by Haeckel, is worth about as much as is that of Homer's heroes for critical historians.'

Poor *Pithecanthropus erectus* has indeed been worked for more than all it is worth. Mr. McCabe dramatically relates how when the skull, the femur, and two teeth of some animal form that had been 'buried nearly 300,000 years ago' were exhibited at Leyden, in 1895, 'science found itself confronted with the long-sought missing link between man and his pithecoïd ancestors.'² Unfortunately, Dr. Virchow and others did not see it then, nor, in spite of all the contumely heaped upon them by Haeckel's champion,³ do all men of science by any means see it now. Even those who, like Dr. Rice, take a favourable view of its possible phylogenetic significance, have to add, as he does, that 'there is indeed a wide gap between even the Java skull and that of the highest of the anthropoid

einer Lösung der Welträtsel! Im Gegenteil muss zugestanden werden dass der Versuch, den ununterbrochenen Zusammenhang einer fortschreitenden Entwicklung zu finden und zu beweisen, misslungen ist.' See also *The Old Riddle and the Newest Answer*, by John Gerard, F.L.S., pp. 140-270, from which the two next references are taken.

¹ Now printed upon p. 401 of the fourth edition.

² *Haeckel's Critics Answered*, p. 49.

³ Including the assertion that the above is now 'the general opinion in anthropology.'

apes.'¹ We do not for this reason reject the theory of evolution which includes man. Nor is there any objection to the quotation which Mr. McCabe makes from Professor Ward: 'Certainly the unanimity with which this conclusion is now accepted by biologists of every school, seems to justify Darwin's confidence a quarter of a century ago.'² But it must be distinctly understood that this does not involve the 'evolution of mind' as an unbroken continuity. Here, as Professor Ward says on the next page:

What we have to notice is rather the existence of serious gaps within the bounds of science itself. But over these vacant plots, these instances of *rus in urbe* science still advances claims, endeavouring to occupy them by more or less temporary erections, otherwise called working hypotheses.

It is not difficult, though it is somewhat impertinent on such a theme, to sneer at Dr. Wallace's 'strange obstinacy.' His Darwinism may be left to take care of itself. But even if unbroken continuity were conceded from *Homo* to *Pithecanthropus*, and thence back to the *Anthropoides*, across the 'boundary' which Haeckel himself draws³ 'between the invertebrate and vertebrate ancestors' to the much-described Monera, it would not in the least help to fill 'the gap between the psychical and the physical,' which, in Professor Ward's words,

is briefly this: If the mechanical theory of the material world, including the modern principle of energy, is not to be impugned,

¹ *Christian Faith in an Age of Science*, Dr. W. N. Rice, p. 258.

² *Haeckel's Critics Answered*, p. 51; Ward, *Naturalism as Agnosticism*, i. p. 7.

³ *History of Creation*, ii. p. 401.

then there is no natural explanation of the parallelism that exists between processes in brain and processes in consciousness: the gap is one across which no causal links can be traced.¹

It matters not how 'intimate and exact' the correspondences between mind and brain, it remains for ever true that 'the two cannot be identified. It is possible, no doubt, to regard a brain-change as a case of matter and motion; but the attempt to conceive a change of mind in this wise, is allowed to be ridiculous.' Again, also, the words of Dr. Stout emphasize the truth for us:

The laws which govern the change of position of bodies and of their component atoms and molecules in space, evidently have nothing to do with the relation between a material occurrence and a conscious occurrence. No reason in the world can be assigned why the change produced in the grey pulpy substance of the cortex by light of a certain wave-length, should be accompanied by the sensation *red*.²

The whole situation is well summed up by Mr. G. E. Underhill³:

Men of science have also been haunted by another ideal, expressed in the old maxim, *natura non facit saltum*, or, in its more modern form, the law of continuity. Guided by these ideals, they have been extremely unwilling to admit the existence of any gaps in their science; and if in the existing imperfect state of knowledge they have been obliged to admit the actual presence of such gaps, they have always hoped that the advance of knowledge would tend to fill them up entirely or reduce them to a minimum. At the present time the most serious gaps are the gap between the inorganic and the organic worlds, and the gap between life and mind.

¹ *Naturalism and Agnosticism*, i. p. 12.

² *Manual*, p. 47. See also p. 243 above.

³ Fellow and Senior Tutor of Magdalen College, Oxford. See *Personal Idealism*, edited by Henry Sturt, p. 201.

So that, on the whole, the theist can afford to smile when he notes the Monistic attempt to discredit his philosophy on the ground that it builds on gaps. For he knows well that the would-be reproach is not merely untrue, but that the attempted blow does most harm to the striker, seeing that he holds the blade, not the handle, in his own hand. Monism is dependent for its very existence upon absolute continuity from the ether to the man, and such continuity is but an unscientific fiction broken up by numberless 'imaginations,' *alias* 'hypotheses,' *alias* 'gaps' *alias* 'myths.'

2. What then, it may be asked, becomes of evolution? To which the first reply manifestly is, that such a question science has no concern to answer. Facts are facts, and evolution is hypothesis; and whatever be the fate of the latter, the former constitute the real treasure of science. With these we may take no liberties, whatever we do with hypotheses. Of these we must give account, whatever becomes of our speculations. But when in the name of materialistic monism Büchner says,¹ 'There is no such thing as the alternative choice of God or chance, which is always being pressed on us; there is a third alternative, evolution, the magic word with which we solve one riddle of the universe after another,' it becomes incumbent upon us, in the name of theism, to meet this as frankly as it is stated.

¹ Büchner's *Last Words on Materialism*, p. 17. We shall see in a moment that although Mr. McCabe recommends us to study this work, he himself has another 'third alternative' quite distinct from that of Büchner. This will be considered in its place.

Were the theme, however, not so serious, the above extract would be positively humorous. The idea of solving 'one riddle after another' by a 'magic word,' reminds one of the Egyptian Hall rather than the halls of science. In face of the fact that all science put together has not thus far solved one single riddle of the universe,¹ the notion of a magic word solving them all, is in very deed 'childish.' But taking the suggestion at its utmost, there are three queries to be met: (i) What is evolution? (ii) How does it work? (iii) Whence is it derived? Let us briefly consider these, as bearing upon the thought of God.

¹ 'To explain is to exhibit a fact as the resultant of its factors. This is the ideal of science, and it is *never* completely attained; but in so far as it is unattained our knowledge is felt to be incomplete. Theories on the subject are in the air, and are put forward in a more or less dogmatic fashion by popular writers. . . . The hypothesis of parallelism is that to which we are ourselves inclined. It certainly covers all the known facts, and forms the most convenient working hypothesis. But it must be admitted that it does so only by somewhat bold speculation.'—Stout's *Manual of Psychology*, pp. 46, 56. This is the psychologist recommended in Haeckel's volume, yet this is the theory which Haeckel himself scorns. It is for him to find a better.

But if we return to matters physical, listen to a most recent authority: 'In order to get a working picture of molecular actions, we have to imagine for the light and heat-bearing ether qualities so contradictory as to make the entire subject *unthinkable*.'—Snyder's *New Conceptions in Science*, p. 122. The italics are his—an interesting 'solution' of the fundamental 'riddle.' Yet may we also hear Professor Ray Lankester, as an unbiassed and competent witness: 'No sane man has pretended, since science became a definite body of doctrine, that we know, or ever can hope to know or conceive of the possibility of knowing, whence this mechanism has come, why it is there, whither it is going, and what there may or may not be beyond and beside it, which our senses are incapable of appreciating. These things are not "explained" by science, and never can be.'—*Times*, May 19, 1903. True—but these are precisely the riddles which we want explained, 'one after another.' In vain we look to Monism's 'magic word.'

(i) It is scarcely necessary to repeat the well-worn definitions of evolution given by Mr. Spencer or Professor Huxley. It will be alike true and sufficient for our present purpose to say that it is an alleged process of growth or development, through which, by means of variation and transmission, all phenomena, 'without exception,' have arisen. In order, however, to be quite sure that we properly represent the Monistic conception of it, Mr. McCabe's version of Haeckel's position shall be given *in extenso*:

We have discovered in the stupendous process of cosmic evolution, the growth or the unfolding of one great reality that lies across the immeasurable space of the universe. An illimitable substance, revealing itself to us as matter and force (*or spirit*), is dimly perceived at the root of this evolution, as a simple and homogeneous medium (prothyl) associated with an equally homogeneous force. Then the continuous prothyl, by a *process not yet determined*, forms into what are virtually or really discrete and separate particles—electrons: the electrons unite to build atoms of various sizes and structures, and the rich variety of the chemical elements is given, the base of an incalculable number of combinations and forms of matter. Meantime the more concentrated (ponderable) elements gather into cosmic masses under the influence of the force associated with them—the force evolving and differentiating at equal pace with the matter (with which it is one in reality). Nebulae are formed; solar systems grow like crystals from them; planets take on solid crusts, with enveloping oceans and atmospheres. Presently a more elaborate combination of material elements—protoplasm, with (naturally) a more elaborate *force-side*—makes its appearance, and organic evolution sets in. The little cellules cling together and form tissue animals, which increase in complexity and organization and centralization until the human frame is produced, the life-force growing more elaborate with the structure until it issues in the remarkable properties of the human mind.

The tracing of this picture is the ideal that science set itself a quarter of a century ago. The success has been swift and

astounding. We are still, as Sir A. Rücker said, living in the twilight; but no man of science now doubts that what we *do* see is the real outline of the universe and its growth.¹

Such an avowed solution of the 'riddle of the universe' cannot be said to lack confidence. How far it is itself riddled with riddles, every 'impartial' student well knows, and the most superficial reader cannot but perceive. We scarcely need the list of the seven 'world-enigmas' which Du Bois Reymond enumerated in his famous '*Ignorabimus*' speech.² To call due attention to its measureless gaps and boundless assumptions, would require that we should italicize almost every other word. How easy it all seems as thus 'traced'; but how irrational and absurd when fairly considered—that is, by ordinary human minds! There may, amongst the bizarre possibilities of the universe 'behind the looking-glass,' be realms where the round can be also square, or the greater issue from the smaller, or everything come out of nothing; but the 'properties of the human mind,' however 'remarkable,' are scarcely less

¹ *Haeckel's Critics Answered*, p. 68.

² In the Leibnitz Session of the Berlin Academy of Sciences, 1880. See *Riddle*, p. 6. They were, and are: 1. The nature of matter and force. 2. The origin of motion. 3. The origin of life. 4. The apparently ordained orderly arrangement of nature. 5. The origin of simple sensation and consciousness. 6. Rational thought and the origin of the cognate faculty, speech. 7. The question of the freedom of the will. The first, second, and fifth of these were pronounced by Du Bois Reymond 'transcendental,' i.e. quite insoluble. The genius of Monism shines out in Haeckel's remark that these '*are settled by our conception of substance.*' Compared with this, the cutting of the Gordian knot was but the play of an infant.

capable of such conceptions, than of those embodied in the anything-but-modest sketch above.

(ii) This 'cosmic evolution,' whether 'stupendous' or not, is nothing more than a 'process.' Now in so far as a process is a process—that is, a recognizable, analysable, causal continuity—it is a phenomenon to be accounted for quite as really as the globe on which we live. This would bring us, at once, to our third query, above noted,¹ as to the origin of evolution. But before entering upon it, we must not fail to mark what this process, as above stated, involves. Four items stand out prominently: (1) The enormous assumptions with which it starts; (2) the uncertainty of the basis upon which it rests; (3) the inevitableness of the teleology which it involves; (4) the undeniableness of the directivity which it everywhere assumes and exhibits.

1. On another occasion (p. 79) our exponent's already-quoted phrase was: 'We have seen how out of a simple matter and force, have come an immense variety of things. These things were *only* implicitly in the primitive prothyl.' This answers exactly to the 'one great reality' above. The weakness of this 'one' and 'only' postulate is indeed noteworthy.² Only assume everything at the outset that can possibly be needed for the uttermost after-develop-

¹ p. 249.

² It is well matched by the 'modesty' which on one and the same page (79) manages to credit opponents of the calibre of Professor Ward, Dr. Iverach, and Mr. Rhondda Williams with such items as, 'The plausible arguments he has borrowed'; 'Simply an audacious assertion'; 'The inanity of the assertion'; 'A long-discredited fallacy'; &c.

ment, and all is clear! This leaves Professor Tyndall a long way behind. He said that 'evolution does not solve—it does not pretend to solve—the ultimate mystery of the universe. It leaves, in fact, that mystery untouched.' But Monism cannot do with mystery. It first—by false assumption—reduces all mysteries to one, and then gets rid of that one by legerdemain. Everything comes from 'prothyl' so easily that we have only to see and believe. All things have come, unbidden and unhelped, 'out of a simple matter and force.' Then, if they have come out of it, they must previously have been in it. Ah! but 'only implicitly,' says our philosopher. Then, we ask again,¹ what does 'implicitly' mean? Either the 'immense variety of things' was potentially in the original prothyl-plus-force, or it was not. If not, then it has arisen out of nothing—which is hardly scientific. If it was there, then in what sense was the original 'matter-force-reality' 'simple'? One cannot but suggest that the simplicity is elsewhere. Mr. Underhill has rightly estimated the situation as follows:

The first point to notice is that the problem of ultimate origin or first cause is—and with reason—left untouched. Matter and motion are taken for granted; indeed, for physical science there is no need to go behind them. Matter, further, is assumed to be homogeneous, and motion to manifest certain unchangeable laws,

¹ See p. 230 above. Hereupon this acute writer remarks: 'That is the favourite form of argument that you cannot get out of a sack what is not in it. It is a long-discredited fallacy.' Evidently Maskelyne and Cook have much to learn in this direction. But the favourite practice of Monism is very 'simple' indeed. It merely consists in putting into the sack beforehand whatever is intended for exhibition as coming out of it.

like Newton's laws of motion, &c. Evidently, therefore, there can be no evolution either of homogeneous matter as such, nor of the unchangeable laws of motion. . . . Secondly, it is remarkable that such theories all more or less tacitly assume that the qualitative differences of the chemical elements and other supposed composite effects are fully explained by their quantitative differences, which it is hoped may ultimately be measured according to some unit or units of numerical relations. This surely is a large assumption, and must not be allowed to pass unchallenged.¹

And further, when we come to the higher realms of life:

In a word, the evolutionist in the organic kingdom proceeds in precisely the same way as the evolutionist in the inorganic kingdom. Like him he starts with matter, motion, force, and chemical change; in addition, he assumes as ultimate facts or principles life and the laws of life, adaptation, reproduction, variation, &c. He makes no attempt to give any evolutionary genesis of these first principles—to him they are permanent causes—and then, having assumed all this, he describes with as scientific accuracy as possible how the organism *x* changes into the organism *y* through the intermediary changes *a b c d*. . . . And his description is successful and convincing, but only under these limitations.²

In other words, Monism only becomes thinkable through theism—assuming in fact what it denies in principle. Its true name is Cryptotheism. It would have us, indeed, attribute all things to a 'process' for which neither cause nor direction is supplied. But such a process is unthinkable. Hence this materialistic-pantheistic monism is really its own sufficient contradiction. For whilst it ostentatiously rules out³ 'the very mention of God,' it is compelled to assume

¹ *Personal Idealism*, edited by H. Sturt, p. 203.

² *Ibid.* p. 316.

³ As Mr. McCabe, *passim*.

all that true theism means by that term,¹ and cannot without such an assumption move one single tiniest step.²

2. Having thus borrowed, or stolen, all that it needs by way of capital for the starting of its business, Haeckel's monism is naturally driven to safeguard what it has thus appropriated. A 'process' explains 'all phenomena, without exception,' but the process itself needs no explaining! It possesses, no

¹ 'The theistic interpretation of force or cosmic energy is this. The universe is pervaded from centre to circumference by a vast transcendent Power, known yet unknown, its action being mirrored to us in our own moods of conscious energy, but surpassing these immeasurably. The energy of which we are conscious in the forthputting of volition gives us the root-idea of force; and in the light of this idea we are warranted in interpreting the myriad minor forces of the universe, not as in themselves divine, but as the outcome or manifestation of a Power which underlies and yet pervades them, which animates and at the same time transcends them.'—Knight's *Aspects of Theism*, p. 85.

² It is true that Haeckel uses the term 'God,' but in his hands it is only a self-contradictory juggle of words. Thus on one and the same page we are told that 'the monistic idea of God which alone is compatible with our present knowledge of nature recognizes the divine spirit in all things' (*Confession*, p. 78); but when we ask what is this 'divine,' the answer is that 'God is the infinite sum of all natural forces, the sum of all atomic forces and all ether vibrations.' That is to say, God is all things, and therefore we recognize all things in all things; which is doubtless true, but is also, to borrow one of Mr. McCabe's expressive terms, somewhat 'inane.'

Surely Professor Paulsen's irony is here well warranted: 'Ja, ja, konsequent denken, es ist ein herrliche, aber seltene Naturerscheinung! Preisen wir uns glücklich, dass unserem Jahrhundert in dem Begründer der monistischen Philosophie ein solcher Mann zu teil wurde. Nur konsequentes denken konnte zu dem herrlichen Ziel führen, zu der allumfassenden, gewaltigen Erkenntnis: Alles ist eins! Gott und Welt, Materie und Kraft, Energie und Geist, mechanische Kausalität und Substanzgesetz, Dualismus und Monismus, Theismus und Pantheismus, Vitalismus und Mechanismus, Rationalismus und Empirismus, Kriticismus und Dogmatismus: Alles ist eins! Und Menschen und Affen nähern sich bis zur Berührung.'—*Philosophia Militans*, p. 185.

to refer to the instances mentioned by Haeckel himself of eminent naturalists who decline to worship with him at this shrine. 'Carl Naegeli, one of our ablest and most philosophic botanists, rejects Darwin's theory of natural selection altogether, and would explain the origin of species by an inner *definitely directed* variation independently of the conditions of existence in the outer world.'¹ A little farther on we learn that Naegeli is not alone—'Naegeli, de Bries, and other modern biologists who reject selection.'²

cause of truth and progress and the placidity of scientific workers would be best consulted by keeping these criticisms out of Christian evidences, with which logically they have nothing to do' (p. 47). It is, indeed, difficult to preserve 'placidity' in contact with such impertinences. No doubt all the facts and reasons which show the folly of materialistic Monism would be best kept out of the knowledge of everybody. But Christian advocates happily are not to be silenced by 'rationalistic' brow-beating. 'Thus Dr. Iverach discusses the question at great length in his *Theism in the Light of Present-day Science and Philosophy*.' Yes, and let the student not be beguiled by such a sophistic summary as this. 'He thinks that natural selection may act on variations but cannot initiate them, and cannot show why some organisms remain unicellular and others become multicellular'; which is quite true—only it is but a fraction of the truth. For there are a myriad things that natural selection cannot do, every one of which it is bound to do if Haeckel's monism is to be worth thinking about.

¹ *Wonders*, p. 381.

² Take one brief paragraph from the work scorned by Haeckel's advocate. Says Dr. Iverach: 'Many other things might be said of the inadequacy of natural selection. Indeed, many things have been said, and these have for the most part been ignored by the thorough-going advocates of natural selection. Though it has been clearly shown that natural selection cannot originate anything, yet men continue to speak as if natural selection could do this and that and the other thing. Though it appears that its function is negative, the killing off of the unfit, yet positive functions of the most productive sort are ascribed to it. At one time it is said natural selection does produce species, and with the next breath it has to wait for the appearance of a variation on which it may work.'—*Theism in the Light of Present-day Science*, p. 74.

But we have only to shake ourselves free from the dogmatisms¹ of this blatant Monism to find that there are many who, with good reasons and the right to speak, refuse to be cowed into submission to any ruling fashion on these lines. Professor Henslow has given abundant evidence of his competence as a modern botanist.² His attitude is practically the same as Naegeli's. In his own words:

Evolution is a thoroughly established fact, based on the strongest inductive evidence, as well as proved by an abundance of experimental verification. Darwinism is a theory or hypothesis to account for it. It is an imaginary process to account for evolution. No evidence has ever been forthcoming from nature in support of this theory of 'the origin of species by means of natural selection.' It may be added that it is perfectly true that the struggle for life, natural selection, and the survival of the fittest, occur everywhere in nature. These things, however, are concerned with the distribution of organisms. They account for the presence or absence of species in any given area, but they have nothing to do with their origins, as these are based on structure alone. . . . The conclusion from this logical analysis seems inevitable, that the origin of species cannot be aided by, much less due to, natural selection.³

Similar expressions of well-qualified judgement might be multiplied. For our present purpose it will suffice to take but one more, from one speaking with quite

¹ 'Our opponents do not fail either in narrow dogmatism or in cool assumption. But they forget'—or rather ignore the fact—'that there are workers outside whose knowledge is quite equal to theirs, and who yet do not see their way to such strong statements: workers moreover who call no man master, and who refuse to relegate all creation and every organism to a force whose very existence is purely speculative.'—*Ibid.*

² See *The Origin of Floral Structures* and *The Origin of Plant Structures by Self-adaptation to the Environment*, vols. lxiv. and lxxvii. of 'The International Scientific Series,' &c.

³ *Present-day Rationalism*, pp. 145, 146, 147, 155.

as much right as Professor Haeckel. Dr. James Croll, F.R.S., writing upon *The Philosophical Basis of Evolution*, says:

The figurative expression 'natural selection' is a somewhat unfortunate one, for it is apt to mislead. It has a tendency to convey the idea, and does so to many minds, that nature makes a selection. Nature does no such thing. Natural selection is simply the survival of the fittest. There is nothing in the nature of selection but this. Natural selection is better expressed by saying that it is the survival of the fittest *resulting from the destruction of the unfit*. Thus it is obvious that it can produce nothing. The simple destruction of that which exists would not produce that which does not exist. The conception is absurd. Natural selection is not an efficient cause; it has no formative power, no positive efficiency. There must be something of the nature of an organ to begin with, however rude, simple, and elementary it may be, or else natural selection would have nothing upon which to act.¹

That there is reason for Dr. Croll's protest may be inferred from Darwin's own words:

Further, we must suppose that there is a power represented by natural selection, or the survival of the fittest, always intently watching each slight variation in the transparent layers of the eye, and carefully preserving each which under varied circumstances in any way or in any degree tends to produce a distincter vision.²

But a fair and typical comment upon this must always own that—

Natural selection cannot create a new organ or structure, but only preserve such variations of growth as are best adapted to the conditions of life. If the humming-bird's bill or the insect's proboscis grows longer, its better adaptation to the flowers on which it feeds may cause that form to prevail to the extinction of the shorter bill or the proboscis, but the flower does not make

¹ pp. 127, 128.

² *Origin of Species* (6th ed.), p. 146.

the bill or proboscis grow, nor cause the offspring to inherit the more favourable form.¹

And when Mr. Darwin goes so far as to say :

If it could be demonstrated that any complex organ existed, which could not possibly have been formed by numerous successive, slight modifications, my theory would absolutely break down² ;

it is certainly open to any careful observer of nature to reply as Mr. Hassell does. 'Well, be it so! The knowledge of the structure of a hen's egg will enable us to demolish the whole fabric of evolution by natural selection.'³

The attitude of Professor Haeckel is plainly enough expressed throughout his works. The following will serve as a type of the rest :

The great difference between a machine and an organism is that in the machine the regularity is due to the purposive and consciously acting will of man ; whereas in the case of the organism, it is produced by unconscious natural selection without design.⁴

Here we have once more the marvellous suggestion that the inferior production requires intelligence to bring it about, but the superior does not ! Waiving that, however, this ascription of practical omnipotence to natural selection is utterly negated by careful scrutiny. Thus, says Mr. Syme :

The conditions of existence cannot be a *vera causa* of organic changes, although they constitute an important indirect factor.

¹ Mr. G. C. Bompas, F.G.S., F.R.G.S., &c., *Trans. Viot. Inst.*, No. 110, p. 106.

² *Origin of Species*, p. 146.

³ *Trans. Viot. Inst.*, No. 73, p. 57, which see, for the grounds of such an assertion.

⁴ *Wonders*, p. 105.

I say indirect, for the environment is only the condition, or the occasion, not the cause of modification. It is absurd to speak of a condition as a cause. It is the organism itself which modifies itself to the conditions, not the conditions which modify the organism. It is the power of adaptation which the organism possesses which is the real factor in organic modifications.

The variations are provided for, but not by natural selection; the profitable variations are preserved, not by natural selection, but by heredity; and they are preserved because they are profitable; so that the whole process, from first to last, is carried on without the smallest assistance from natural selection.¹

We are therefore well warranted in saying that such a statement as we find in *The Riddle*, that—

Darwin's conception of the theory of selection first revealed to us the *true causes* of the gradual formation of species—the 'struggle for life' is the great *selective divinity*, which by a purely *natural* choice, without preconceived design, *creates* new forms *just as selective man* creates new types by an artificial choice with a definite design²—

is alike self-contradictory and untrue.³ Whence it follows that the Monism which is compelled to stake its very existence upon natural selection, as a substitute for design, is hopelessly discredited.

Into detailed discussion of this matter from the standpoint of science it is manifestly impossible to enter here. No quotations from Haeckel's works are necessary to show that his monism depends on Darwinism, and Darwinism for him means natural selection. It is enough, therefore, here to meet his assertion that by its means 'we have now got rid

¹ *The Soul, a Study and an Argument*, pp. xxv., 120.

² p. 93. The italics are mine.

³ So, too, says Mr. R. B. Arnold (*Scientific Fact and Metaphysical Reality*, p. 355), in his critique on Haeckel's works—'Natural selection, it seems now agreed, does not in itself explain the origin and variation of species.'

of design,' with the plain avowal that it is not true. Professor Duns has abundant warrant in facts for his avowal that—

The claims recently urged in behalf of the theory of natural selection as a substitute for the theory of design are not admissible, because it fails to give a satisfactory explanation of the differences among closely related organisms, of the complex phenomena of organs and functions and especially of sex, of the laws and limits of variation, of the law of reversion to type, or of the numberless adaptations implied in all these. Whereas all such fall into order and significance when traced to active intelligence, both as to origin and guidance.¹

Now, there can be no doubt that, as Professor Henslow puts it, 'the reason why Darwinism is accepted by materialists and monists as the foundation of their system is because the whole process of evolution, if based on natural selection, is not reducible to any natural law. It is a mechanical haphazard system, which Huxley called a method of trial and error.' The plain object, in a word, is to oust teleology by means of mechanism plus chance. But it cannot be done. For 'mechanism,' be it ever so far-reaching, does not of necessity exclude teleology, but rather confirms and emphasizes it²; whilst chance,

¹ Professor Duns, D.D., F.R.S.E., New College, Edinburgh, President of the Royal Physical Society, Edinburgh.

² Thus Professor Weismann says, in his *Studies of Descent*: 'The harmony of the universe, and of that part of it which we call organic nature, cannot be explained by chance. Mechanism and teleology do not exclude each other, but are rather in mutual agreement. Without teleology there could be no mechanism, but only a confusion of crude forces; without mechanism there could be no teleology, for how could the latter otherwise effect its purpose?' So, too, Von Hartman declared that 'the most complete mechanism is likewise the most completely conceivable teleology.' (See *Vict. Inst. Trans.* February, 1894, *The Mechanical Conception of Nature*, by G. Macloskie, D.Sc., LL.D.)

in the only sense in which it would rule out teleology, is, as we shall see in a moment, expressly excluded by Monists themselves. That Darwin himself never contemplated the exclusion of teleology, is abundantly manifest from his own words above quoted.¹ So is there good ground for Huxley's unmistakable judgement, which deserves to be here quoted once again :

The doctrine of evolution is the most formidable opponent of all the commoner and coarser forms of teleology. But perhaps the most remarkable service to the philosophy of biology rendered by Mr. Darwin is the reconciliation of teleology and morphology, and the explanation of the facts of both which his views offer. The teleology which supposes that the eye, such as we see it in man, or one of the higher vertebrata, was made with the precise structure it exhibits for the purpose of enabling the animal which possesses it to see, has undoubtedly received its death-blow. Nevertheless it is necessary to remember that there is a wider teleology which is not touched by the doctrine of evolution, but is actually based upon the fundamental proposition of evolution.²

And again he says, in his *Lay Sermons*, that 'the apparently diverging teachings of the teleologist and the morphologist are reconciled by the Darwinian hypothesis.'³

¹ The sentence quoted above from *The Origin of Species*—'always intently watching and carefully preserving'—however figurative, cannot but involve a teleology of some kind. And when on the same page we read about 'the Creator's works,' we see that plainly atheistic monism was far enough from his thoughts.

² *Critiques and Addresses*, p. 305.

³ p. 264. To see how far the language of teleology is necessary, and may be employed in the description of natural processes, there is probably no finer specimen in print than that found in the Professor's words on p. 227 concerning the development of a tadpole: 'So that after watching the process hour by hour, one is almost involuntarily possessed by the notion that some more subtle aid to vision than an achromatic would show the hidden artist with his plan before him, striving with skilful manipulation to perfect his work.'

This mention of the eye suggests matter for further consideration. It is the favourite example, as well it may be, both of ancient and modern teleology and of recent anti-teleologists. Thus Haeckel writes:

This faculty of vision *begins with the formation* of a small *convergent* lens, a *bi-convex refracting body* at a *certain spot* on the surface. *Dark pigment cells* which surround it absorb the light rays. From this first phylogenetic form of the organ of vision up to the elaborate human eye there is a long scale of evolutionary *changes—not less extensive and remarkable* than the historical succession of *artificial optical instruments* from the simple lens to the complicated modern telescope or microscope. We can in this case *see clearly how* a *very complicated and purposive* apparatus can arise in a *purely mechanical way*, without any preconceived design or plan. In other words, we can see *how* an entirely new function—and one of its principal functions, vision—has arisen in the organism by *mechanical means*.¹

It is indeed difficult to understand how men who claim to be learned and sincere, can cheat themselves and mislead others with verbal confusion of this kind. The words italicized here simply serve to show what assumptions and assertions are substituted for explanations, in the effort to make natural selection the grave of teleology. 'Vision begins with the formation.' May be. But what caused this beginning? Assuredly natural selection did not. Did it, then, form the 'bi-convex refracting body' which so conveniently appeared at a suitable as well as a definite spot?² Did it form the 'dark pigment cells' which so usefully began to absorb

¹ *Wonders*, p. 310, &c.

² 'At the foremost part of the body,' says Mr. McCabe. Why not at the hindmost part?

the light?¹ It certainly did nothing of the kind. The utmost that it could do was to *preserve* these 'evolutionary changes'—'changes'? surely the true word here is rather 'improvements'—*when they were formed*. But Haeckel's champion intervenes:— 'Each structure was useful in its turn and on that very account selection fastened on it'²; which latter—discounting the rhetorical flourish, 'fastened,' which turns pure passivity into pseudo-activity—no one denies who accepts natural selection at all. But what we want to know is how each 'useful structure' came to be at all, 'in its turn.' Once again, it is certain that natural selection did not form it. To suggest accidental variation is to admit chance, which Monism—on occasion—denies. To assert mechanism, is, as Professor Weismann declares, to necessitate teleology.³ If one had any doubt about this, surely it would be dispelled by Haeckel's own illustration. Improvements—'a long scale of evolutionary stages'—have taken place in the

¹ 'The office of the black pigment is generally supposed to be to absorb stray light like the lamp-black *with which the optician coats the inside of the tubes of his telescope*.'—Burnett Lectures at Aberdeen for 1885, third course, p. 58. These are easily procurable from Messrs. Macmillan. The thoughtful reader who is unacquainted with the structure of the eye, could not do better than study Lecture III in this third course, pp. 43-77, 90-97; he will then be better able to appreciate the jaunty way in which not a few writers dismiss the 'formation' of the eye as a trifle easily accomplished.

² *Haeckel's Critics Answered*, p. 74.

³ How groundless and indeed absurd is the plea of Haeckel's exponent, may be shown in a moment. Here, he says, 'is a plexus of natural forces acting on matter, without, *as far as we can see*, the possibility of their acting otherwise: *only one result was possible*.'—*Haeckel's Critics Answered*, p. 74. The words italicized are suggestive.

evolution of the eye 'not less extensive and remarkable' than in the evolution of the microscope,—'the historical succession of artificial optical instruments' from the magnifying glasses of Galileo to the apochromatics of Zeiss. And these improvements in the eye have been brought about *without* design, '*just as* selective man' works. But no man living questions that the latter works '*with* a definite design.' Thus we have a fair specimen of one of Monism's analogues. To say 'not less extensive and remarkable' is far less than the truth, as every one knows who has studied the eye carefully for an hour. All the 'contrivances' of our latest microscopes are poor and clumsy in comparison with its structure. Yet, observe, in regard to the far inferior instrument, any one who suggested that it came into our hands from accident or 'necessity,' without intelligent guidance of the material employed in construction, would be accounted a lunatic. But as to the vastly superior instrument, we are to take it as the result of a 'blind'¹ 'plexus of natural forces acting on matter, without the possibility of their acting otherwise'! Surely this is the greater lunacy.

The truth is, that in all these fine words the real issue is never once faced. The asserted explanation is no explanation at all. It is a dictum in regard to the human eye exactly tantamount to saying, in regard to the modern microscope, that it has reached its present stage of efficiency through gradual

¹ *Riddle*, p. 92.—'blind and unconscious agencies.'

improvements. Which we all know. But what we want to know is, how these same improvements were brought to pass. And so long as we retain our sanity, we are bound to aver that, as regards the incomparably inferior instrument, neither chance nor necessity had anything to do with it. It is the result of suitable material guided by intelligence. Whether in nature intelligence is applied directly, as men have to do, or indirectly, as men cannot do, is entirely irrelevant. The question is not where does intelligence come in, but does it come in at all? Does natural selection, without intelligence or guidance anywhere, give us a rational explanation of our powers of vision? That is the real and plain question. And to that, common sense and science alike answer with an overwhelming negative.

For myriads of other observers, quite as competent as Professor Haeckel and his translator, have considered this marvellous organ. The whole of the present volume could be filled with their estimates, from Paley—who was by no means such a fool as some modern critics are pleased to regard him¹—to the late Professor G. G. Stokes, or the present Lord Kelvin.

¹ What says Professor Le Gros Clarke, F.R.S., when President of the Royal College of Surgeons of England—presumably as well acquainted with the anatomy of the eye as Mr. McCabe, or his master—in editing a new edition of Paley's *Natural Theology*? Instead of the common and superficial sneer that it is now worthless, we find the avowal that 'if this theory of evolution shall ever take its place amongst the universally recognized truths of science, it will undoubtedly affect what may be called the incidence of the argument from design, and render the application of it more remote. But a little consideration will show that the argument itself will retain its essential validity, and by no means be robbed of its force or become antiquated or useless.'

Thus Dr. James Croll, F.R.S., well writes, concerning 'the long scale of evolutionary changes':

But during this whole process of development of the eye, the only thing effected by natural selection was the preservation of those individuals which, in consequence of the superiority of their eyes, were best fitted to live.¹

That is to say, 'natural selection itself becomes a *consequence* of a preceding evolutionary change' and without that preceding operation it could never come into play at all.

The superior eyes were evidently produced by powers and forces inherent in the individuals themselves. The same energies and powers which produced the offspring, produced of course the eyes also. The personifying of natural selection tends to mislead. Natural selection is not an agent: a something which acts. Natural selection was the occasion, or more properly a condition in the evolution of the eye; not the efficient cause. Were much that has been written on the efficiency of natural selection divested of its figurative dress, it would assume a very different appearance.²

Again, the late Dr. Pritchard gave his deliberate testimony as follows:

From what I know, through my own speciality, both from geometry and experiment, of the structure of lenses and the human eye, I do not believe that any amount of evolution, extending through any amount of time consistent with the requirements of our astronomical knowledge, could have issued in the production of that most beautiful and complicated instrument, the human eye. There are too many curved surfaces, too many distances, too many densities of the media, each essential to the other, too great a facility of ruin by slight disarrangement, to admit of anything short of the intervention of an intelligent will at some stage of the evolutionary process.³

¹ *The Basis of Evolution*, p. 130.

² *Ibid.*

³ *Occasional Thoughts of an Astronomer*, p. 125, by Rev. C. Pritchard, D.D., F.R.S., Savilian Professor of Astronomy, and Fellow of New

Again, the late Professor G. G. Stokes, after a summary of the marvels of the human eye so succinct and comprehensive, so scientific and yet so clear, that the quotation of the whole alone could do it justice, says in conclusion :

When we contemplate the mosaic of the human retina with its elements regularly arranged, and set at distances of only one or two ten-thousandths of an inch apart, and think of these almost countless elements as destined to convey the impressions of the almost countless points which we can distinguish as separate in the field of view : still more when we think of the correspondence of the two eyes, and of all that involves—that the mosaics should be of the same pattern and very approximately at least of the same size ; that their elements should be brought into correspondence two and two in a perfectly methodical manner, those elements in the two eyes corresponding which agree in distance from the centre and angle of position ; when we consider the number and fineness of the fibres leading from the elements and into the brain—when I say, we contemplate all this, it seems difficult to understand how we can fail to be impressed with the evidence of design thus imparted to us.¹

Then, referring to the proposed theory of the 'formation' of all this by means of natural selection, he adds :

College, Oxford—one out of the many of whom Mr. McCabe, with his accustomed 'modesty,' writes (p. 14) : 'It would be absurd to say that the publications of these professors of apologetics and doctors of divinity have the same value, as replies to Haeckel, as those of scientific laymen.' So that either every Christian advocate, as such, must be ignorant and insincere, or, at least, truth, fact, reason, and science, from his contemptible lips, must be false or valueless! And then the writer meekly adds—'all this is gravely misleading.' Surely the Monism which needs such advocacy must be in a poor way.

¹ Burnett Lectures, *On Light* (Aberdeen, 1885, third course), pp. 90-97, by George Gabriel Stokes, M.A., F.R.S., &c., Lucasian Professor of Mathematics in the University of Cambridge. Is he too another of those whose testimony Mr. McCabe would consider valueless? If so, graduates of Cambridge will know how to estimate Monism.

Even if this were granted, it would not follow that no evidence of design was left; but can we grant it, even as a probable hypothesis, for no one, I suppose, would hold it to be proved? The process supposed in the theory may be one real feature in a very complex whole; namely, in the existence of the various forms of living things, both vegetable and animal, that we behold; but that we want *nothing more* to account for the existence of structures so exquisite, so admirably adapted to their functions, is to my mind incredible. I cannot help regarding them as evidences of design operating in some far more direct manner, I know not what; and such, I think, would be the conclusion of most persons.

It is fairly certain that all the books that can be printed, will never avail to unsettle the common sense which endorses the above findings of exact science.

But let us examine the matter a little more closely. The notion which 'Rationalists' and Monists of the Haeckelian type so sedulously and often blatantly seek to disseminate, that science has put an end to all thought of design in regard to the vertebrate eye, is in very deed an 'audacious assertion,' which merits the most direct and emphatic contradiction. It may be made by biological monists who have a theory to carry through, and it may be believed by those who have never made themselves acquainted with the facts of the case. But plain reason can no more face these facts as they actually exist, and attribute them to the mere hap of 'accidental variation,' than it can ascribe this page to the accidental aggregation of type.¹ In addition to the lucid and impressive

¹ It was the clear perception of this which led Dr. J. H. Stirling to say at the close of his interesting work, *Darwinianism, Workmen and Work*, p. 358: 'For myself, in conclusion, I must say this: I

lecture of Professor G. G. Stokes just recommended, let the reader ponder the following, taken from a similar declaration of the late Dr. Carpenter, whose scientific qualification to speak is beyond all question. After pointing out 'the superiority of the eye' as compared with a modern microscope, he says,¹ 'I venture to think, moreover, that my special experience as a microscopist has give me the means of adding something to Professor Helmholtz's demonstration of the practical efficiency of the eye.' Then, giving a special illustration of this, in the wonderful powers of automatic adjustment possessed by the eye, he adds:

That the eye should be provided with such a mechanism has always seemed to me a most wonderful evidence of intelligent design; and the importance of this provision in our daily life is so great (as every one knows in whom it is even partially deficient) as to outweigh beyond all comparison the slight want of optical perfection which is inseparable from it.

Then, as regards the fact that less perfect stages in the development of the eye are found in lower orders of living creatures, surely instead of the customary sneer at 'imperfection,' the scientific and common-sense view combine in Dr. Carpenter's suggestion, as follows:

And it seems to me greatly to strengthen the argument of intention, that a similar perfection of adaptiveness should be attained by the working up of the same elementary materials on

admire the naturalist, and I honour the man; but I hope to be forgiven if, for the life of me, I cannot but smile when assured by Mr. Darwin that there is not necessarily such a thing as design in this universe, now that the law of natural selection has been discovered.'

¹ See *Modern Review* October, 1884, pp. 655-65.

two different methods of construction, in accordance with the general plan of articulates and vertebrates respectively. With regard to those more simple forms of visual apparatus which *we* regard as inferior or rudimentary, it is to be borne in mind that they prove no less suitable than our own to the requirements of the animals which possess them, and are therefore *equally perfect in their kind*.

Inasmuch, however, as the 'modesty' of Monism still finds it useful to meander after this fashion:—'The new teleology flatters itself it differs very scientifically from the old; for teleology had fallen into disrepute, during the period of "gap" theology which followed the break-up of Paleyism'¹—it may be well to give, from the same competent authority, a specimen of the way in which the new teleology expresses itself:

Further evidence of intelligent design is supplied by the history of the development of any one of the highest forms of the eye, such as that of the chick in ovo. For it has been ascertained, by the careful study of this process, that the complete organ is the result of *two* distinct developmental actions, taking place in opposite directions—a growing inwards from the skin, and a growing outwards from the brain; the former supplying the optical instrument for the formation of the visual picture, and the latter furnishing the nervous apparatus on which this is received, and by which its impression is conveyed to the sensorium. A hollow pear-shaped projection is sent out from the division of the brain called the mesencephalon; the narrowed neck or stalk of which afterwards becomes the optic nerve, whilst its expanded portion, pressed back into a cavity, becomes the retina. At the same time an inward growth takes place from the skin, at first strongly resembling that which gives origin to a hair follicle; a sinking-in of the surface of the dermis or

¹ *Haeckel's Critics Answered*, p. 71. As a matter of fact there never has been either any 'break-up of Paleyism,' or any following 'period of gap theology.' Such phrases are but the convenient assumptions of materialistic monism.

true skin, being accompanied by an increased development of its epidermic cells. This depression deepens into a round pit, the lower part of which expands whilst its orifice contracts, so as to form a close globular cavity, which is at last completely shut off from the exterior. This cavity is lined by epidermic cells, out of which the crystalline lens is ultimately formed; the derm on which they rest becomes its capsule; and the loose tissue which underlies the derm becomes the vitreous humour. The back of the globe thus formed, meeting the pear-shaped projection of the brain, pushes it, as it were, inwards; and thus derives from it the retinal investment which is necessary to bring the optical apparatus into relation with the nervous centres. *Neither of these developmental processes would be of any use without the other. It is only by the conjunction of the two that this most perfect and elaborate instrument is brought into existence.*

This being a summary of what occurs to the chick in ovo, it may be left to honest imagination to say how much more complex and wonderful is the process of development of the human foetus in utero, which can result in the vastly more beautiful and wonderful human eye.

4. Now, what reason demands is an adequate explanation of the above process, for common sanity declares that such a process cannot be its own origination, or 'purposive' continuation. By many of the acutest minds that science has produced, such explanation has been called 'design,' as proceeding from intelligence. But the truth involved does not depend upon the name. If our growing knowledge shows us that 'design'—as involving not only intelligence, but human intelligence, with its necessary limitations of application and of method—is too small, a larger term, conveying a superhuman intelligence, may with equal

advantage and truth be adopted. Either that of Dr. Iverach, 'an immanent directive principle,' or the 'directivity' of Professor Henslow¹ would serve very well. In such a case Dr. Carpenter is abundantly justified in saying that—

The evidence of final causes is not impaired. We simply, to use the language of Whewell, transfer the notion of design from the region of facts to that of laws—that is, from the particular cases to the general plan. In this general plan the production of man is comprehended.²

There is, indeed, no possibility of evading this necessity of invoking intelligence in some form or other. For, as Professor Knight well says, in his *Aspects of Theism*:

Suppose that we revert to protoplasm, as the mystic element out of which all life is evolved, and of which it is the magical essence, we are really not one whit nearer the goal. It is an explanation of the obscure by the more obscure. How is protoplasm worked up into vital forms? By what power, or force, or agency? Can protoplasm dispense with a protoplast? or evolution with an evolver? Either this alleged primitive element or substance has been itself everlastingly alive—in which case we almost touch the opposite theory—or, originally dead, it has been vitalized by another and a living agency beyond itself.³

Suppose, however, that of these alternatives we adopt that confessedly most favourable to materialistic monism, is anything gained for its 'automatic'

¹ Borrowed as he tells us (*Present-day Rationalism*, p. 36), from Professor A. H. Church, F.R.S., who says that he coined it to express 'the parallelism between the chemist directing in his laboratory physico-chemical forces in the making of a true organic compound, and that mysterious something which employs the same forces to make the same compound in the plant or animal.'

² See Dr. Fisher's *Grounds of Theistic and Christian Belief*, p. 46.

³ p. 91.

mechanism? Let Mr. Clodd, as one of the 'scientific laymen' who, according to Mr. McCabe, can best be trusted, tell us :

Given the matter which composes protoplasm and the play of forces and energies of which that matter is the vehicle, wherein lies the difference which gives as one result non-living substance, and as another result living substance? The answer obviously is that, *the ingredients being the same, the difference must lie in the mixing.*¹

Here the author has kindly italicized for us what he deems conclusively important. We thank him, and request only one other favour, viz. that he will show us the mixer. Or, failing that, we may at least ask what sense, or what science, there is in suggesting that the ingredients would *so mix themselves* as to produce what no chemist, with all his efforts, has ever produced or is likely to produce?²

But let us bridge over this little 'gap' with

¹ *Story of Creation*, p. 149.

² Lest these last words should seem too strong, let us take the testimony of one more of Mr. McCabe's scientific laymen, and a favourite too. Says Professor Dolbear (*Matter, Ether, and Motion*, pp. 368, 370): 'The substance that works best for this preparation [of artificial protoplasm] is K_2CO_3 . Olein oil is generally used—ordinary oil is useless.' This is interesting, seeing that the formula for olein oil is $C_{57}H_{105}O_2$. But further, '*Much pains must be taken in preparing it, but when a minute drop of this properly prepared substance is placed in water it becomes clear and transparent, and exhibits changes in shape.*' Consequently, 'the success that has attended the efforts of chemists in synthetic chemistry has emboldened some of the foremost' to believe that 'when the substance protoplasm is formed it will possess all the qualities of protoplasm, including life.' But, unfortunately, for this purpose 'there are needed two differently constituted substances, physically mixed, not chemically combined, and no mere chemical process or chemical product could give us such a mixture—*chemistry alone cannot give us any substance which can give characteristic vital actions.*' That is at present the last word of science

generosity. Suppose we say with Professor Henslow, 'Once given protoplasm, we find all plants, animals, and man can have been evolved out of it.'¹ What then? Have we 'got rid of the transcendental design of the teleological philosophy of the schools'? Most assuredly we have not. For, as the same writer puts it, 'All the way from primitive protoplasmic beings to man there is that *directivity* which refuses to be excluded.'² It is easy to say with Professor Burdon Sanderson that 'life is understood to mean the chemical and physical activities of the parts of which the organism consists.' But, as Professor Henslow points out, 'there is one thing omitted, and that is *directivity*, which is obvious in every organism and every part of it.' And Lord Kelvin echoes it in the affirmation that 'it is not in dead matter that we live and move and have our being, but in the creative and directive power which science compels us to accept as an article of belief.'³

hereupon. Not a very helpful suggestion towards explaining the original self-mixing.

When Mr. Clodd asks (p. 149), 'Is not the transmutation of the inorganic into the organic ceaselessly going on within the laboratory of the plant under the agency of chlorophyll?'—the answer is simple and immediate. It is. But inasmuch as it assumes the organic—the living—to start with, such 'transmutation' has no bearing whatever upon the problem of life's origin. His own words sum up the whole case. 'The ultimate cause which, bringing certain *lifeless* bodies together, gives *living* matter as the result, is a profound mystery.'

¹ *Present-day Rationalism*, p. 58.

² *Ibid.*, pp. 53, 61, 76, 83.

³ See *Life and Energy*, four addresses by W. Hibbert, F.I.C., A.M.I.E.E., head of the Physics and Electrical Engineering Department of the Polytechnic Institute. A little volume well worthy of consideration.

When therefore Mr. Darwin writes that—

If an architect were to rear a noble and commodious edifice without the use of cut stone, by *selecting* from the fragments at the base of a precipice wedge-formed stones for his arches, elongated stones for his lintels, and flat stones for his roof, we should admire *his skill* and regard him as the paramount power,

it is first to be noted, as Professor Henslow says, that 'the essential feature which Darwin overlooked is that it is quite impossible to construct a "noble and commodious edifice" out of unhewn and unprepared stones, and with no prepared mortar.'¹ But it is still more to the point to note that, whether the stones be hewn or unhewn, prepared or unprepared, no house at all will be built without that particular something which Darwin manifestly concedes and Monism blatantly denies, viz. the 'selecting by an architect,' and putting by 'his skill' into their proper positions. Can any man in his senses question what Dr. Croll asserts, that 'it is not the energy which conveys the bricks, that accounts for the form of the house, but that which guides and directs the energy.' To be of the least service to Haeckel's monism, Mr. Darwin's figure would have to be so seriously altered that he—according to his own avowals—would neither recognize nor accept it. 'If the fragments at the base of a precipice were to *arrange themselves* into a noble and commodious edifice, the wedge-formed stones making themselves into arcades, the elongated stones going to the place for lintels, and the

¹ See *Present-day Rationalism*, p. 175.

flat stones mounting on to the roof,' we should—what? Surely say, if we thought we saw it, that we were in some wild dream; or, if we heard it from another in our sober daylight senses, that the man who narrated it was mad. And yet this, on the immeasurably vaster scale, is what Haeckel and his friends call upon us to accept in the name of Monism! Yet further, absurdities of this type, which are manifestly inseparable from 'our monistic view,' are said to 'mark the highest intellectual progress.' 'Intellectual'!

III. But as we draw to the close of this section—in the words with which Haeckel's advocate begins his chapter upon 'God'—'we enter upon a new and almost final stage' of our exposure 'of monism.' 'Here,' exclaims the writer, 'is a dramatic simplification of the controversy which every thinker must welcome.'¹ Be it so.

An automatic universe, evolving by inherent forces from electrons to minds, would be the most marvellous mechanism ever conceived. The mind would be forced to look for the engineer.

This sentence is really printed in irony, but it will commend itself to the sober perception of every reader. The dozen pages of Monistic philosophy, however, which follow, strive to show that such a sentiment is nothing more than an 'audacious assertion,' supported by 'verbiage and sophistry.' Possibly some of the multitude who are caught by strong assertions will believe him. Nor could the

¹ *Haeckel's Critics Answered*, p. 68, et seq.

ordinary Christian, into whose hands these and such-like words are thrust to-day, read them without something like a catch at the heart, to think that all his cherished faith and hope should thus, at last, have been shown by the genius of Monism to be—as this writer avers—only ‘the conceit of mankind,’ a ‘mere will-o’-the-wisp’ to lead men astray. Certainly nothing is omitted which would help to produce that impression. We are said to be ‘approaching the psychological moment in the great drama of the conflict of science and religion’; and as in the next few pages the all-important moment arrives, and the ‘clear issue’ which is to decide everything is set forth, nothing can be of more importance than that this dramatic situation should be faced to the uttermost.

There are, it seems, three stages in the ‘dramatic simplification’ which is to give the *coup de grâce* at once to teleology and theology. The facts, being as they are, manifestly call for some adequate explanation; so loudly, indeed, that in Haeckel’s own words—

The plant and the animal seem to be controlled by a definite design in the combination of their several parts, *just as clearly as* we see in the machines which man invents and constructs: as long as life continues the functions of the several organs *are directed* to definite ends, *just as* is the operation of the various parts of a machine. Hence it was *quite natural* that the older naïve study of nature, in explaining the origin and activity of the living being, should postulate a Creator who had arranged all things with wisdom and understanding.¹

Now, however, we have found that all that was

¹ *Riddle*, p. 93. The italics are mine.

pure delusion. There has been no arrangement, no design, no mind, no anything. Things are as they are because they are, and that is all. This, in true essence, is the 'dramatic simplification' for which philosophers, theologians, poets, preachers, have been blindly groping through all the centuries. And these are the several items of the great discovery: (1) There is no chance; (2) There is no guidance; (3) Things could not be other than they are.

Perhaps some apology is due to the patient reader for soberly considering such a position; but since this is what is so emphatically printed and eagerly circulated in the name of Monism,¹ there is left us no alternative.

1. Dr. Büchner in his *Last Words on Materialism* says: 'There is no such thing as the alternative choice of "God or chance" which is always being pressed on us; there is a third alternative, evolution, the magic word with which we solve one riddle of the universe after another.'² But apart from the fact, which it is hoped has been made clear above, that 'evolution by means of natural selection' has solved no riddle at all, it has become too manifest to be any longer ignored, that the more potency modern science is disposed to allow to evolution, the more necessary it becomes that for such a process itself an adequate cause should be acknowledged.

¹ 'Und zwar nicht aus Bescheidenheit sondern aus Hochmut.'—Schoeler, *Problems*, p. 101.

² p. 17.

To assign all things to a process, and the process itself to nothing, is a little more than the ordinary mind can endure in the name of reasoning. So that the translator of Büchner and Haeckel, rightly apprehending that his author's 'third alternative' is, in modern light, no alternative at all, kindly provides us with another. 'Mr. Profert rightly indicates a third alternative, necessity.'¹

The first thing to be noted here is, as Dr. Büchner says, that we are under no compulsion to choose between God and chance. The truth or falsity of this assertion of course depends upon the demonstration of the other and third alternative. The 'modesty' with which this is assumed is strikingly manifest at the outset, seeing that all who differ from this writer are pronounced either fools or hypocrites.² That may best go for what it is worth. It is of more importance to note that 'chance' is thus definitely disowned. Quoting a sentence, 'What foolery it is to deem that a mighty world has been

¹ *Haeckel's Critics Answered*, p. 73.

² p. 72. "'Chance" and "fortuitous concurrence of atoms" are phrases which you will not find, outside theological schools, for the last two thousand years.' The falsity of this statement may be typically exhibited in the recent avowal of Lord Kelvin, publicly and deliberately made, that 'there is nothing between absolute belief in a Creative Power and the acceptance of a fortuitous concurrence of atoms.' Its corresponding impudence is no less clear in the addition that 'the constant reiteration of them in our time is a grave piece of insincerity or else ignorance. How Mr. Profert and Mr. Ballard come to use these phrases in the year of grace 1903, is best known to themselves.' For my own part, I esteem it an honour to be in Lord Kelvin's company, to say nothing of others. One might add, that how a writer who talks about 'the pursuit of truth with dignity, and especially with scrupulous honesty,' can pen such sentences as these, 'is best known to' himself.

produced by chance,' Mr. McCabe here adds, 'Happily there are no fools of that particular type amongst us.' That is certainly satisfactory information. But it is difficult to harmonize with what we find elsewhere. Thus Haeckel himself says distinctly,¹ 'Since impartial study of the evolution of the world teaches us that there is no definite aim and no special purpose to be traced in it, there seems to be no alternative but to *leave everything to blind chance.*' This would seem to be plain enough, and rather awkward for the Professor's intelligence. But his translator hastens to take off its edge by referring us to p. 97 of *The Riddle*, where Haeckel 'explains'—as has been explained innumerable times—'the only sense in which science admits "chance" events.' What, then, do we find there? This: that (1) when it is said—as by Haeckel's champion—'there is no such thing as chance,' what is signified is that 'every phenomenon has a mechanical cause'; but (2) when Haeckel himself affirms that 'chance plays an important part in the life of man and the universe at large,' he means 'the simultaneous occurrence of *two* phenomena which are not causally related to each other, but of which each has its own mechanical cause independent of that of the other.' Upon which it is necessary to remark: (1) That the matter in question is not 'an important part' of the universe,² but 'all phenomena without exception'

¹ *Riddle*, p. 97.

² It is quite an easy matter to speak, as Mr. McCabe does (p. 60) of 'a chance variation' in the use of the limbs which could 'greatly stimulate' the brain. For the limbs were there to use, and the brain

which Monism traces 'to the mechanism of the atom.' (2) Why should simultaneous occurrence be limited to 'two' phenomena? Could not twenty-two occurrences be equally simultaneous without being 'causally related'? (3) As a matter of fact, the number of such phenomena is absolutely irrelevant. The original 'matter-force-reality' must have been composed of discrete atoms, or else nothing could be traced back to their mechanism. Each of these was a 'phenomenon,' and therefore had a 'mechanical cause.' Waiving for the moment this piece of assumption, what have we here for the final cause of all that is? An infinite number of simultaneously occurring, mechanically caused atoms, and nothing else. Seeing, then, that all that followed must have followed from their 'concourse,' and that there was no causal relationship nor anything else to bring it about, how can there be a truer description of such origination of all things than the 'fortuitous concourse of atoms'? There is assuredly no reason that any of these so held up to scorn¹ should blush, so long as reason and science are of human account.

As to Haeckel's claim that all 'lawfully termed chance events' come under the 'universal sovereignty of nature's supreme law, the law of substance,' the case is well put by Mr. Underhill:

to stimulate. Here chance might well be 'an expression which in science can only stand for a cause not yet discovered.' The problem is to account for the limbs, not for their use; not to ask whether the brain could be stimulated by the use of the limbs, but how there comes to be a brain at all.

¹ Dr. Iverach, Mr. Profeit, Dr. Dallinger, Dr. Croll, Mr. Newman Smyth, Mr. R. Williams, Dr. W. N. Clarke, Lord Kelvin, &c.

In other words, if there be taken for granted, as necessary presuppositions, particles of homogeneous matter and all the known laws of nature, then we may say that the present state of the cosmos is due to the action upon these particles of all the known laws of nature plus chance, where 'chance' means other uniform causes that are unknown. Surely this is a mere truism, which properly interpreted serves only to emphasize once more the supremacy of mind. For all known laws of nature are *ipso facto* intelligible and general formulae; therefore by analogy we have every reason to suspect that the unknown laws of nature, could they be discovered, would also be intelligible formulae, and therefore in like manner sure evidence of intelligible and intelligent agency—in a word, of Mind. If, however, the emphasis be laid on the adjective 'blind' and the cosmos be consequently taken as a purely fortuitous concourse of atoms, not only is this utterly against all scientific evidence, but the chances of there being any cosmos at all are mathematically nil—one against infinity. This amounts to the denial of any intelligible order or rationality in things, and without some such rationality science can have no object. In a word, there can be no science.¹

Or, to put the same into one of the late Professor Clerk Maxwell's well-warranted parodies:

The pure elementary atom, the unit of mass and of thought
Which by force of mere juxtaposition to life and sensation is
brought;
So down through untold generations transmission of structureless
germs,
Enables our race to inherit the thoughts of beasts, fishes, and
worms.

2. But the Monism which dismisses God and chance alike is equally vehement in its assertion that the universe shows no trace of guidance of any sort. It cannot, of course, be denied by any save the wilfully blind that 'we do undeniably perceive a purpose in the structure and in the life of an

¹ *Personal Idealism*, p. 209.

organism.'¹ But this is mere hallucination, for 'the real and efficient causes' of all natural phenomena are 'blind and unconscious agencies.' It is 'impossible for us to see a divine presence and guidance, at least during the process' of evolution.² If we venture to ask how it comes to pass, then, that we have order all round us, and that we ourselves are definitely arranged, organized bodies, and not mere masses of pulp, we are sharply informed that all such queries are unnecessary and absurd. Thus we are brought right up to the 'dramatic simplification' which the reader must have been impatiently expecting every moment. Here it is.

First, the target which is to be blown to pieces is held up for exhibition :

We may state it in abstract form to this effect. Wherever in nature we find several agencies co-operating in the production of a certain result which is orderly and beautiful, we see the guidance of mind. The underlying assumption is that the unconscious forces of the universe will only produce chaos unless they are guided. Preconceived design, followed up by directive control, or else a 'fortuitous clash of atoms,' is the alternative put before us.³

Most persons of ordinary intelligence will deem these propositions eminently reasonable. They are, however, 'a grave piece of insincerity or ignorance,' for there is a third alternative—not evolution, as Dr. Büchner said, but—necessity.

Haeckel and his colleagues⁴ hold that *the direction which the evolutionary agencies take is not fortuitous ; that they never could take but the one direction which they have actually taken.*

¹ Riddle, 93.

² Haeckel's Critics Answered, p. 75.

³ p. 71.

⁴ It would be interesting to know who these 'colleagues' are. If

And this is the foundation of Monism! This the *sine qua non* of all its wondrous 'philosophy'! Did ever in the history of literature such sweet simplicity, such cool assumption, and such colossal question-begging, condense themselves into a single sentence? Well may they be supposed to ask each other, 'When shall we three meet again?'¹ Let us, however, for the sake of the unwary, pay it more heed than it deserves.²

the impression be conveyed that the fellow University Professors at Jena, or Berlin, endorse this preposterous attitude, it is utterly false. See Dennert's *Die Wahrheit über Ernst Haeckel*, p. 91: 'Wie urteilen Haeckel's Fachgenossen über ihn?'

¹ On the opposite page, in regard to a sentence from Dr. Croll, this writer says, with a semi-sneer, 'Dr. Croll seems to fancy that in this he has suggested a new idea to the world.' Does not this apply much more forcibly here? After labouring through pages of denunciation, with exuberant confidence as to an approaching 'dramatic simplification' which is to end all controversy, we find that this modern mountain in labour has brought forth the ancient and wizened mouse of—'necessity'! The able teachers whose names are held up to scorn because they have not paid greater heed to this 'third alternative,' are abundantly warranted. It is too irrational to merit more than a passing glance, as exhibiting the strange condition of mind on the part of those who can hold it. But this writer might at least be intelligible, after all his gibes at others. Yet when we come to consider it, is there any significance at all in 'the direction which the evolutionary agencies take'? Can 'agencies' 'take' any direction whatever? One can but suppose that what is meant is the direction which the molecules of matter take under the influence of 'evolutionary agencies.' What this involves we proceed to estimate.

² For Mr. Lilly's summary would be quite valid and sufficient as a disposal of this philosophic 'much-ado-about-nothing.' 'The doctrine of organic evolution, which taken by itself is an admirable revelation of a universal law, does not in the least conduct us to the necessity of modern phenomenists as the true explanation of the universe. Everywhere reigns one law; the law of progress, of development, of perpetual becoming; therefore there is no First Cause whence that law issues; there is only necessity. An admirable argument indeed,

The above statement is elaborated as follows :

Some day science will be able to trace a set of forces working for ages at the construction of a solar system, or at the making of an eye. The monist says that these forces *no more needed guiding than a tram-car does* ; there was *only one direction possible* for them. Here is a clear issue.

There is indeed ; and we would earnestly invite every man of sincerity and sense to face it. The plain assumption is that a tram-car needs no guiding ; there is 'only one direction possible' for it. How then account for the following ? Seeing that fact is not seldom stranger than fiction, and truer than argument, we will simply quote from the report of a daily paper (October, 1904) :

Millbrook, a village near Stalybridge, was yesterday the scene of an alarming tram-car accident, a child being killed and several passengers in the vehicle more or less severely injured. Near the top of the hill the car *got out of control* and dashed down the hill at a great pace. Nearing the bottom it *jumped the metals* and, *swerving* to the right, dashed into the last of a block of three cottages, knocking out the end and the whole front. The passengers, bruised and shaken, were got out, and then under the ruins was found the body of a child named *Thomas McCabe*, who was playing on the pathway and unable to escape as the car *came crashing on*.

Surely the italics alone in the above extract, excepting the name as a mere coincidence, are sufficient reply to the manifest irrationality of the

issuing fitly in an *équivoque*. Necessity is a question-begging word. Is blind necessity meant ? Such necessity assuredly could not produce the diversity, the succession, the return of phenomena. But if necessity is not blind, it is merely another name for law ; and law implies an abiding and unchanging self, a spiritual principle.—*The Great Enigma*, p. 213.

belauded 'third alternative' as thus illustrated.¹ But the main point must not be missed. Such 'accidents,' as we call them, are, alas! not infrequent.² But there are thousands of tram-cars running, greatly to the convenience of the public, every day. How is it that all the cars are not smashed, and all the passengers seriously injured? That is the question to be asked. And every child knows that there is but one answer. The tram *is guided*. If it were not guided, the electric force which imparts (only) motion to it, would be the deadliest menace of our streets, instead of the comfort of the weary. Imagine a Town Councillor suggesting, for a new route, that there should be no rails, because 'there was only one direction possible' for the cars to take! Would his constituents be proud of his intelligence? Truly this would seem to be the place to return to this writer, with a little added emphasis, his own 'modest' words in regard to an opponent. 'The whole passage is too ludicrous to analyse in detail, but I must point out two things.'³ The 'two things'

¹ Lest there should be any verbal shuffle over the difference between 'guiding' in the above quotation and 'control' in the report, it may be well to point out that it is a difference without distinction. For the right motion of the car, control is nothing more than enforced guidance. The driver, as is well known, has nothing whatever to do with guiding; it is the pace alone, not the direction, which he controls.

² Two others are reported as I write. Take only the brief account of one. 'Matthew Smith, the driver of a Huddersfield electric tram-car, on arriving at the terminus of the Bradley route on Saturday, lost control of the car, which *left the rails and crashed* against a wall. Smith jumped from the car, and was seriously injured.'

³ *Haschel's Critics Answered*, p. 25.

here are plain already, viz. that until it is shown that (i) the rails which guide the tram-car were laid down by necessity without intelligence; and (ii) that even whilst being guided, it is not possible for cars to take any other direction—that is, to ‘jump the rails’—the illustration adduced only serves to show with emphasis the absurdity of the alleged ‘third alternative.’ To put it positively, the resulting well-warranted assertion is that if the comparatively tiny forces represented in a tram-car require most firm and careful guidance, so that convenience and not destruction may result, how much more do the measureless forces everywhere working in and around us day by day! With what good reason, therefore, does Professor Ward say at the conclusion of his work on *Naturalism*:

When we examine that necessity which is the boast of science, the ground of its utility, and the criterion of its perfection, how singular is the result we find! For the sake of this ideal the historical is ignored, the metaphysical eliminated, substance and cause become fetishes, God a superfluous hypothesis, and man an enigma—a troublesome by-product, a veritable ghost that cannot be laid. Nevertheless this necessity itself remains inexplicable, and in turn is scouted as but a shadow of the ghost or anathematized as an intruder. Naturalism can do nothing without it: agnosticism can do nothing with it.¹

How, then, does Monism seek to justify such an empty and irrational suggestion? Says this writer:

Now, it seems clear that if a man asserts that the forces of the universe are *erratic*, and may go in any one of a dozen directions *unless they are guided*, he must show cause for his opinion. The man of science has never discovered an erratic force yet. Force always acts uniformly—always takes *the same* direction.

¹ *Naturalism and Agnosticism*, ii. p. 283.

The italics may serve to direct our appreciation of these curious assertions. Naturally the first inquiry here is what is meant by an 'erratic' force. The definition supplied is, a force which 'may go in any one of a dozen directions unless' it is 'guided.' To which the obvious reply is that there is in this absolutely nothing whatever 'erratic.' When it is guided, to use the writer's own terms, 'force always acts uniformly, always takes the same direction.' It would only be 'erratic' if it refused to do this. But, again employing his own language, 'the inanity of the assertion' that 'force always takes *the same direction*' when, *apart from guidance, there is no direction for it to take*, is surely plain enough for any child to see. What the human mind yearns to know, is how the forces of the universe came to work in *those special directions* which have issued in the evolution of the cosmos, including man and mind, out of the original ethereal 'matter-force-reality' with which Monism is now fumbling. The answer given is that these forces 'always took the same direction'! Does all the history of philosophy supply an evasion equal to this? What does common sense say? We want to know the way, say, from Newcastle to London, and in reply to inquiry we are informed, with the utmost vehemence, that all we have to do is always to take 'the same direction.' Assuming sanity, we repeat the question, but find that no other reply than reiteration is obtainable. There is then but one conclusion possible; and it applies here. The Monism which asserts that

the world as we know it, including ourselves, has evolved simply through forces always taking 'the same direction,' when there was no direction for them to take, is mad. There is nothing more, or less, to be said.

What, then, is the use of this fine talk :—'Force, so far as our experience goes, acts necessarily, inevitably, infallibly ; there could be no science if it did not' ? Such pompous reiteration is irrelevant and redundant. No one questions the uniform action of force, when directed. But if force only acted 'necessarily' there could be no science at all. For science includes law and order, adaptation and utility, and none of these is found in mere necessity. In fact, this phrase, for all its high-sounding tautology, does not even touch the question in hand. Reason demands to know why the forces of the universe acted so as to produce what we know ; and we are told that they could not but act. Which is not only in itself a huge and unproved assumption, but is equally irrelevant to the question asked. Whilst the bald assertion that the unguided forces of the universe could only act in those particular directions which have produced the world and ourselves, is the most colossal *petitio principii* that a pseudo-philosophy is capable of perpetrating. Its true worth was long since best expressed in Professor Huxley's words :

And what is the dire necessity and 'iron law' under which men groan ? Truly, most gratuitously invented bugbears. It is very convenient to indicate that all the conditions of belief have been fulfilled in this case [of gravitation] by calling the statement that unsupported stones will fall to the ground 'a law' of nature.

But when, as commonly happens, we change *will* into *must*, we introduce an idea of necessity which assuredly does not lie in the observed facts, and has no warranty that I can discover elsewhere. For my part I utterly repudiate and anathematize the intruder. Fact I know, and law I know; but what is this 'necessity,' save an empty shadow of my own mind's throwing?

But if it is certain that we can have no knowledge of the nature of either matter or spirit, and that the notion of necessity is something illegitimately thrust into the perfectly legitimate conception of law, the materialist position that there is nothing in the world but matter, force, and necessity is as utterly devoid of justification as the most baseless of theological dogmas.¹

Yet further, the above assertion appeals to our own experience—'force, so far as our experience goes.' To experience let us by all means turn. Does our conscious common sense tell us of any 'force' that acts to profit without guidance? As for the reiteration that 'the teleologist cannot give us a shadow of proof of his assertion that the natural forces are erratic,' the richly merited reply is forbidden by courtesy. For assuredly no teleologist, of any school, has ever made such a stupid avowal. Indeed, every teleologist knows well that his teleology is the very rock of refuge upon which he stands secure from the sweltering chaos which really 'erratic' forces would produce. Here, of a truth, is the only 'necessity' in the whole case. Chaos *necessarily* results when there is no guidance, for the simplest and surest of reasons, viz. that out of nothing, nothing can come. The order in an orderly cosmos is surely something; and it is something for which 'force,' *per se*, affords no

¹ *Lay Sermons*, p. 124; for primary reference of these words, see context.

explanation whatever. Nay, more: the more 'uniform' and 'infallible' the action of force, the greater is the necessity that it should be guided, if cosmos rather than chaos is to ensue. To dismiss this flippantly as 'naïve and antiquated,'¹ is but to scorn the very 'experience' to which all sane appeal is made. For our 'experience' certainly goes as far as this, that every force which we can handle, by the very reason that it 'acts uniformly and in the same direction,' never does and never will produce anything either intelligible or useful, until and unless the direction in which it shall act 'uniformly,' is decided by our own intelligence. And that alone is sufficient to warrant us in dismissing—to return with thanks another expression from our author's rich vocabulary—as so much 'verbiage and sophistry' this whole tirade about 'dramatic simplification.'

The apparently impressive demand, that he who postulates the necessity of guidance for evolutionary forces, and acknowledges no other necessity, 'should show cause for his opinion,' and that 'until some good reason is shown for thinking that natural forces could have acted otherwise we see no need for designer, or guide, or engineer,' is as irrational to ask as it is easy to answer. This philosopher, it seems, must have an accident before he can believe that trams need iron rails to guide them! Surely any child of fair intelligence would be wiser. For he would see that in the mere motion of the tram there was no guarantee whatever that it would go

¹ *H. C. A.*, p. 72.

along the road rather than into a shop. No more reason is there for thinking that 'blind, unconscious agencies' would, *per se*, issue in a cosmos of law and order and utility and beauty, rather than a welter of indescribable chaos.

The shuffle by which Monism seeks to evade the force of such genuine rationalism is only too easily exposed. The absolutely necessary guidance is assumed to be contained in the forces themselves. In other words, as matter—to make it workable in the Monistic system—is assumed to contain mind,¹ so force is sweetly alleged to include in itself all needful guidance. The one assumption is as baseless as the other. Four points here merit attention in order to clearness.

(i) In the conception of 'force' or 'energy,' there is no notion of direction whatever. The attempt to slip it in on occasion, is entirely without scientific warrant. Says Haeckel: 'Since the ideas of force and energy have been more clearly distinguished in physics, energy is now usually defined as the product of force and direction.'² No authority is given for such a definition, although it is acknowledged that 'the word is still used in many different senses.' No one of these, however, including

¹ 'Matter cannot exist and be operative without spirit.'—*Riddle*, p. 8.

² *Wonders*, p. 466. It would be interesting to apply this to some other statements—e.g. on p. 270 we are told that 'the direction of plasma-movement' is due 'in the last instance to modifications of chemical energy.' If therefore energy means force multiplied by direction, we find that the direction of plasm is due to the direction of chemical reaction. But if plasm requires direction, so does chemical reaction. Whence, then, come the assumed potentialities?

that just given, is of the least use to Monism in its attempt to make force self-directing.

First, however, let us note authoritative definitions of energy as employed in modern physics. Professor Rankine says, 'Energy means capacity for performing work.'¹ 'The ability one body has to move another,' says Professor Dolbear, 'sometimes called its energy, and the amount of energy received is proportional to the amount of energy the first body possesses.'² But let us go a little farther:

In order that matter should possess energy, it must have motion of some kind; indeed, energy has two factors, mass and motion. When either of these is zero, there is no energy. This is a consideration of great importance, both in a scientific sense and a philosophical one. One may often hear it said, and read it in carefully written books, that matter and energy are the two realities or physical things in the universe, and energy is spoken of as if it were an entity, or something that might exist though there were no substance to move. If energy be a product and motion be one of the factors, then in the absence of this there is no energy.³

In all this there is nothing whatever about direction. Indeed, if motion be a necessary factor of energy, seeing that all motion must be in some direction, the direction must plainly be decided somehow before the energy can be created. Thus, following Professor Dolbear a little farther—seeing that he is favourably quoted by Mr. McCabe—we find:

Let it be remembered that we have in natural phenomena, matter, and ether, and space, and time, and motion. If matter and ether be substances, then the product of one into the other would signify nothing; it would be physical nonsense.⁴

¹ *Applied Mechanics*, p. 476.

² *Matter, Ether, and Motion*, p. 59. See also Ganot's *Physics*, p. 46.

³ p. 70. ⁴ p. 77.

To the same effect Professor Rankine says explicitly, 'The actual energy of a body is essentially positive, and irrespective of direction.'¹ Nor can there, finally, be any clearer or more authoritative statement of the case, than that of Professor Sir Oliver Lodge:

Matter possesses energy in the form of persistent force, and it is propelled by force; but neither matter nor energy possesses a power of automatic guidance and control. Energy has no directing power. This has been elaborated by Croll and others; see *Nature*, vol. 43, p. 434, thirteen years ago, under the heading, 'Force and Determinism.' Inorganic matter is impelled solely by pressure from behind; it is not influenced by the future, nor does it follow a preconceived course, nor seek a predetermined end. An organism animated by mind is in a totally different case.²

(ii) Thus the teleologist shows good cause for his attitude when he points out that this writer's statement—'we cannot conceive of energies being directed except by energies,'³ is entirely without scientific warrant. For seeing that energies, *per se*, have nothing to do with direction, the direction of energies by energies is simply meaningless. It is, to quote Professor Dolbear, 'physical nonsense.'

¹ *Applied Mechanics*, p. 449.

² *Hibbert Journal*, January, 1905, p. 327. Haeckel's advocate has an interesting comment here (p. 113) upon Sir Oliver's pointing out the difference between 'life' and 'energy.' After the usual assertion that it 'looks like a begging of the question,' we are roundly told that 'indeed it is impossible to conceive life otherwise than as energy. The death of the animal is like the death of the motor-car' (*sic*)! Seeing that before any organism can die it must first have lived, perhaps Monism will oblige by exhibiting a living motor-car. That would secure many converts to the 'system.' How desperate must be its straits, to be driven to such illustrations, may be left to the reader's own intelligence.

³ *Haeckel's Critics Answered*, p. 114.

But since Professor Lodge mentions Croll with manifest respect, it may be well for the reader to mark a few of his clear avowals:

Material phenomena, whether in the physical or the organic world, are produced in general by the motion of the molecules or of the atoms of the bodies. Now, the great question is not simply what produces the motion, but what produces the particular kind of motion. It is not what gives *existence* to the motion, but what *determines its direction*.

The causing of or giving mere existence to the motion, I have called the *Production* of the motion. The causing of it to happen in the particular manner in which it does, rather than in some other manner, I have called the *Determination* of the motion. It must be evident to every one who will consider the matter, that these two things are radically distinct. And not only are they radically distinct, but they must be separately accounted for.

It is absolutely impossible that the exertion of a force can be *determined* by force, or that motion can be *determined* by motion, or action by action.

The mystery is not—what are the forces which move the particles, but what is it that guides and directs the action of the forces so that they move each particle in the particular manner and direction required.

When a molecule is to be moved, there is an infinite number of directions in which force may be conceived to move it. But out of the infinite number of different paths, what is it that directs the force to select the right path?

What conceivable idea can be attached to a self-directing force?

The truth is that in attempting to account for the *determination* of motion by referring it to a *force*, we are attempting an absolute impossibility. The *production* of motion and the *determination* of motion are two things absolutely different in their essential nature. Force produces motion, but it is as impossible that force can determine motion as that two can be equal to three, or that a thing can be and not be at the same time.¹

¹ See *The Philosophical Basis of Evolution*, pp. 8, 13, 16, 24, 25, 26. The student will do well to read the whole. Author's italics above.

Furthermore, since the late Professor Romanes is referred to by Professor Haeckel as having done 'splendid service to natural science,' it may be worth while to add his verdict herein :

Now, even if we suppose that the persistence of force is a sufficient explanation of the occurrence of the particular sequence contemplated, so far as the exhibition of force is there concerned, we are thus *as far as ever* from explaining the determination of this force into the particular channel through which it flows. It may be quite true that the resultant is determined as to magnitude and direction by the components ; but what about the magnitude and direction of the components ?¹

(iii) These statements, which are fully confirmed both by science and by sense, should be quite sufficient to show that the notion of 'necessity'—the 'third alternative'—to account for nature, as we know it, is as utterly and helplessly inadequate as it is purely fictitious, being, in Professor Huxley's phrase, nothing but a 'shadow of the mind's own throwing.'

(iv) It only remains to point out that the much-vaunted sovereignty of 'nature's supreme law, the law of substance,' does not in the least militate against the reasonableness or the scientific validity of intelligence, as the director of energy and the determiner of the direction of force. The quotation given from Sir Oliver Lodge by Mr. McCabe himself, is both applicable and sufficient to this effect :

Guidance and control are not forms of energy, and their superposition upon the scheme of physics perturbs physical and mechanical laws no whit, though it may profoundly affect the consequences of those laws.²

¹ *Thoughts on Religion*, p. 70.

² *Haeckel's Criticism Answered*, p. 113.

But the testimony of Professor Poynting, to the same effect, may be usefully confirmatory :

It has often been pointed out that the will may act as a guiding power, changing the direction of motion of the atoms and molecules in the brain, and we can imagine such a guiding power without having to modify our ideas of the constancy of matter, or the constancy of motion, or even the constancy of energy. The energy will not be changed, since a merely deflecting force does no work.¹

We are now, therefore, in a position to estimate aright the following pseudo-summary of this acute but 'gravely misleading' plea for Haeckel's monism against Christian theism :

The point we have reached, then, is this: the notion that molecules are 'guided' to their 'proper position' by any other than a mechanical force—the notion of 'guidance' or 'control' *during* the cosmic process—is unproved, is unthinkable when examined in detail.²

The considerations above given show, on the contrary, that such a statement is as unwarranted as it is audacious. 'A mechanical force,' *per se*, without guidance, can never rationally be regarded as the sufficient cause of law, order, utility, beauty, any more than everything can be rationally conceived to arise out of nothing. The 'laws of nature,' acting as guides 'during' the cosmic process, are even clearer proofs of the immanence of God than the old arguments from design were of intelligent purpose. To avow, as an addition, that such divine guidance 'is opposed by an appalling mass of facts, such as waste, cruelty, suffering, &c.,' has been

¹ *Hibbert Journal*, July, 1903, p. 745.

² *Haeckel's Critics Answered*, p. 76.

sufficiently answered above. Whatever tragic truth there may be in the mystery of pain, such an indiscriminate, superficial, and sensational indictment as this, proves nothing more than the one-sided animus of its author.

Further, to say that nature's requirement of intelligent guidance—

Starts from the assumption that natural forces are erratic in action, for which it does not offer any justification, and which is directly opposed to scientific experience,

has been shown to be false. Theism has never postulated that natural forces are 'erratic'—the very notion is as absurd as untrue. It has abundantly justified its rejection of self-directing forces. Of these latter, scientific experience knows no more than it does of 'erratic' forces. The whole suggestion, therefore, may be dismissed as irrelevant and unworthy.

Finally, to say that belief in intelligent guidance—

Rests on a number of fallacious analogies and poetical expressions, on a fallacious application of the term 'blind' to natural forces, and on the as yet imperfect condition of our scientific knowledge of the construction of organisms,

is to cap the preceding by simple untruth. Theism never did, and never does, rest upon 'poetic expressions.' The 'analogies' to which it appeals have never been shown to be false. The term 'blind' is sufficiently expounded by Haeckel himself, as excluding intelligence, to warrant every reference to it as such in reply. The present gaps in our scientific knowledge do not constitute the foundation

of Christian faith. Theism does not rest upon what we do not know, but upon what we do know.¹ Monism, on the other hand, is absolutely dependent upon what we do not know; for we have seen that Haeckel himself says 'to reject abiogenesis is to admit miracle.' So that it is an 'indispensable thesis in any natural theory of evolution.' But assuredly we know nothing of 'abiogenesis' or 'archigony.' This summary is, therefore, merely an exhibition of rational collapse covered by verbal assertion.²

When, therefore, it is asked³ what is meant by saying that Christian theism will receive rather more than less support from science in the future,

¹ 'The fact is that even a complete proof that the whole order and harmony of nature is due to what is called natural causation, would not in the slightest degree diminish the philosophical proof that there is a God. That proof depends, not on the fact that so many phenomena of nature are mysterious and cannot be assigned to natural causes, but on the fact that natural causes themselves require to be explained.'—Harris, *Pro Fide*, p. 53.

² With it may well be compared this extract from Professor Schoeler (*Probleme*, p. 68): 'Hier lassen uns die Naturwissenschaften in Stich, und wir müssen unsere Zuflucht zur philosophischen Spekulationen nehmen: wir erkennen erst dann welche tiefe und dunkle Probleme im Gesamtbegriffe der Naturentwicklung schlummern, die der Monismus auch nicht entfernt gelöst hat. Es genügt beispielsweise auf den absurden Widerspruch hinzudeuten, in welchen die Vertreter der monistischen Weltanschauung verfallen, wenn sie einerseits alles Geschehen als die notwendige Folge und den unabänderlichen Vollzug der famosen "ewigen, ehernen, grossen Gesetze" hinstellen, und doch zugleich die Verwirklichung von Zwecken in der Welt leugnend, behaupten, dass alles bloss durch den blinden Zufall herbeigeführt werde! Ganz abgesehen von der geistlosen Öde und Leere eines solchen zwecklosen Naturverlaufes!'—*Probleme*, p. 68.

³ 'One wonders, therefore, what Mr. Ballard meant when he assured his anxious interviewer that "the theistic basis of Christianity will have scientific support more than ever"' (p. 78). N.B.—The reviewer was not at all 'anxious.'

the inquiry is best answered for our present purpose by the expressed judgements of one or two well-known men of science, as types of many others.

The conclusion of the great Newton is well known :

This admirably beautiful structure of sun, planets, and comets could not have originated except in the wisdom and sovereignty of an intelligent and powerful Being. From a blind metaphysical necessity—which, of course, is the same always and everywhere—no variety could originate. The whole diversity of created things, in regard to places and times, could have its origin only in the ideas and the will of a necessarily existing Being.¹

Has modern science, then, discovered reasons for dismissing this conclusion as 'mere superstition'? At all events, Lamarck, 'the real father of organic evolution,' did not think so, for he declared that—

Nature, not being intelligent, nor even a being, but an order of things constituting a power subject to law, cannot therefore be God. She is the wondrous product of His almighty will ; and for us, of all created things, she is the grandest and most admirable. Thus the will of God is everywhere expressed by the laws of nature, since these laws originate from Him.²

Nor did Professor Romanes, whose two volumes on

¹ The sneer of Haeckel that Newton 'passed the last thirty-four years of his life in the obscure labyrinth of mystic dreams and theistic superstition,' is worthy of the same pen which could write that Newton 'from his law of gravitation deduced action at a distance without a medium.' Newton's own words are : 'Action at a distance is to me so great an absurdity, that I believe no man who has in philosophical matters a competent faculty of thinking can ever fall into it.' From which the reader can draw his own conclusions. As regards, however, the innuendo that here, as in the other cases specified, 'senile decay' may have operated, it may not be known to all that when he was past Haeckel's age, Newton performed the 'mathematical feat' of solving the special problem which Leibnitz had concocted for the express purpose of confounding English mathematicians.

² See Gerard's *The Old Riddle and Newest Answer*, p. 279.

comparative psychology are pronounced by Haeckel as 'amongst the most valuable productions of psychological literature'; for he writes:

Physical causation cannot be made to supply its own explanation, and the mere persistence of force can give no account of the ubiquitous and eternal direction of force in the construction and maintenance of universal order. We are thus, as it were, driven upon the theory of Theism as furnishing the only nameable explanation of this universal order. That is to say, by no logical artifice can we escape from the conclusion that, as far as we can see, this universal order must be regarded as due to some one integrating cause principle; and that this, so far as we can see, is most probably of the nature of mind. At least, it must be allowed that we can conceive of it under no other aspect; and that, if any particular adaptation in organic nature is held to be suggestive of such an agency, the sum total of all adaptations in the universe must be held to be incomparably more so.¹

Professor W. James, the well-known psychologist, is cited by Haeckel's advocate as being altogether 'heterodox,' and the conclusion of his volume on *The Varieties of Religious Experience* quite bears out the estimate. All the more valuable, therefore, and significant, are these other words of his, as coming from a witness equally able and unbiassed:

That ultimate Weltanschauung of maximum subjective as well as objective richness, whatever its other properties may be, will at any rate wear the theistic form. . . . I hope you will agree that I have established my point, and that the physiological view of mentality, so far from invalidating, can but give aid and comfort to the theistic attitude of mind.

In defining the essential attributes of God, I said He was a personality lying outside our own, and other than us—a power not ourselves.

My thesis, in other words, is this: that *some* outward reality of a nature defined as God's nature must be defined, is the only

¹ *Thoughts on Religion*, pp. 71, 72.

ultimate object that is at the same time rational and possible for the human mind's contemplating. *Anything short of God is not rational, anything more than God is not possible*—if the human mind be in truth the triadic structure of impression, reflection, and reaction which we at the outset allowed.¹

Professor Le Conte, moreover, is so quoted by Mr. McCabe, that the reader who has no access to his works might well misunderstand his main position. But it is perfectly plain:

It makes no particle of difference how the material originated, or whether it never originated at all: it matters not whether the adaptation was done at once out of hand, or whether by slow process of modification: it matters not whether the adaptive modification was brought about by a process of natural selection, or by pressure of physical environment—whether without law or according to law. The removal of the result from manlike directness of separate action cannot destroy the idea of design, but only modify our conception of the designer. What science and especially evolution destroys, therefore, is not the idea of design, but only our low anthropomorphic notions of the mode of working of the designer. There is still design in everything, but no longer a separate design, only a separate manifestation of the one infinite design.²

Professor Henslow, as above pointed out, has earned his right to scientific respect; and he too says, with good reason:

In our present state of knowledge, as we can only know of life proceeding from life, so too we can only conceive of consciousness proceeding from some conscious being who could impart it. As far as our existing knowledge will take us, therefore, the probabilities of there being a conscious power, whom we call God, are a hundredfold greater than that everything is due, as Haeckel says, to some 'blind unconscious agencies.'³

¹ *The Will to Believe*, &c., by Professor W. James, pp. 115, 129, 134, 142. The italics are his.

² *Evolution and Religious Thought*, pp. 323, 325.

³ *Present-day Rationalism*, p. 57.

With his accustomed 'modesty,' the champion of Haeckel's monism seeks in half a dozen pages to pour scorn upon the deliberately published findings of Lord Kelvin.¹ There is no need to vindicate the character or reputation of such a man. It will, for all who attach any value to the testimony of acknowledged scientific genius, be sufficient to record his definite utterances:

We only know God in His works, but we are absolutely forced by science to believe with perfect confidence in a directive power—in an influence other than physical, or dynamical, or electrical forces. There is nothing between absolute belief in a creative power and the acceptance of the theory of a fortuitous concourse of atoms. Modern scientific men are in agreement with Cicero in condemning as utterly absurd a fortuitous concourse of atoms, in respect to the coming into existence or the growth or the continuation of the molecular combinations presented in the bodies of living beings. Here scientific thought is compelled to accept the idea of creative power. Forty years ago I asked Liebig, walking somewhere in the country, if he believed that the grass and flowers that we saw around us grew by mere chemical forces. He answered, 'No, no more than I could believe that a book on botany describing them could grow by mere chemical forces.'²

Whilst, in regard to a theme and a book equally scorned by Monism, he said in his presidential address before the British Association in 1871:

I feel profoundly convinced that the argument of design has been too much lost sight of in recent zoological speculations. Reaction against frivolities of teleology, such as are to be found

¹ pp. 108-114: 'We might dismiss Lord Kelvin's intervention as the most unfortunate episode in his career, and as a pitiful failure to give the slenderest support to the reverend lecturers of the Christian Association. Clearly Lord Kelvin was guilty of the gravest impropriety,' &c. Such an attitude reminds us 'clearly' enough of a well-known dog picture which requires no naming.

² *Nineteenth Century*, June, 1903, p. 1069.

in the notes of learned commentators on Paley's *Natural Theology*, has, I believe, had a temporary effect in turning attention from the solid and irrefragable argument so well put forward in that excellent old book. But overpoweringly strong proofs of intelligent and benevolent design lie all round us; and if ever perplexities, whether metaphysical or scientific, turn us away from them for a time, they come back upon us with irresistible force, showing to us through nature the influence of a free will, and teaching us that all living beings depend on one ever-acting Creator and Ruler.

More particularly as facing the future, Mr. Mallock has pointed out that—

With every advance which is made in positive knowledge, and with every enlargement in our conception of things which results from it, any substitutes for these doctrines—of God, freedom, and immortality—become more and more impossible.¹

Mr. Fiske endorses this from the standpoint of evolution:

Enough has been said to indicate the probability that the patient study of evolution is likely soon to supply the basis for a natural theology more comprehensive, more profound, and more hopeful than could formerly be imagined. The nineteenth century has borne the brunt, the twentieth will reap the fruition.²

And before the most august assembly that modern science can furnish, Mr. Balfour recently declared in his presidential address: 'I have been tempted to hint my own personal opinion that as natural science grows it leans more, not less, upon a teleological interpretation of the universe.'³

These testimonies, out of many, must suffice; if they do not, no others will. They ought, at the

¹ *Religion as a Credible Doctrine*, p. 278.

² *Life Everlasting*, p. 87.

³ British Association Meeting, Cambridge, August 17, 1904.

very least, to stop Monism's attempted brow-beating in regard to theistic belief, if not also to answer the query as to what is its outlook for the future. The whole case is summarized by Mr. Harris with equal lucidity and validity :

We admit that the difficulties of theism and Christianity are real ; but they are a mere trifle compared with the difficulties of non-theism. The non-theist outrages reason—no weaker term is adequate—when he affirms—

(1) That the cause which produces the mind of man is impersonal and unintelligent ; and

(2) That the cause which produces the idea of moral perfection in the human soul is non-moral.

To affirm these propositions—and every non-theist affirms them—is to affirm that the creature is greater than its creator and the effect greater than its cause.

Since, then, theism, with all its difficulties, offers a rational, and the only rational, view of the world ; and since non-theism offers one which is fundamentally irrational, and since, moreover, suspension of judgement upon a question of such vital importance is impossible, we claim the verdict for theism, and therewith for Christianity.¹

3. By the side of such deliberate avowals as are given above, added to what we have previously discovered by scrutiny of Monism's methods, the contumacious dogmatisms of the Professor of Jena² sink to the same level as the 'anticipations' of Mr. Wells, which are quoted with such gusto by Haeckel's

¹ *Pro Fide*, p. 535.

² As a specimen—'No evidence of the existence of a personal God is to be found. All that revelation is supposed to teach us on the matter belongs to the region of fiction. The whole field of theology, and the whole of the Church teaching based upon it, are based on dualistic metaphysics and superstitious traditions. It is no longer a serious subject of scientific treatment.'—*Wonders*, p. 488.

champion.¹ And when we come to the final summary, which assures us that there is nothing in nature itself 'that would justify us in transferring to it the title or prerogatives of the dying God,' we know how to estimate equally the feebleness of its philosophy and the coarseness of its audacity. If the ascription of all things within and around us to the blind forces of 'necessity,' be the best suggestion Monism has to offer, and the whole truth concerning its vaunted 'dramatic simplification' of antitheistic objections, its case is poor indeed. For here is nothing more than an assumption too pitifully irrational to admit of characterization. It is at least trebly unscientific. There is no reason in it; there is no reason for it; there are overwhelming reasons against it. Of a truth, if all that Monistic

¹ 'Before the end of this century educated men will have ceased to believe in "an omniscient mind"—the last vestige of that barbaric theology which regarded God as a vigorous but uncertain old gentleman with a beard and an inordinate lust for praise and propitiation.' And men who write false and contemptible cartoons like this, profess to wonder why Christian people doubt either their intelligence or their sincerity! If it comes to 'anticipations,' why should not those of the late Mr. F. W. H. Myers—quite as scientific in his methods and studies as Mr. Wells or Mr. McCabe—be of equal validity? 'I venture now on a bold saying: for I predict that, in consequence of the new evidence, all reasonable men, a century hence, will believe the resurrection of Christ, whereas, in default of the new evidence, no reasonable man a century hence would have believed it. We have shown that amid much deception and self-deception, fraud and illusion, veritable manifestations do reach us from beyond the grave. The central claim of Christianity is thus confirmed, as never before.'—*Human Personality*, vol. ii. p. 288. At all events genuine modesty, with carefulness of statement and refinement of speech, gives his works a scientific value which it would be difficult indeed to maintain on behalf of the others here mentioned.

philosophy can suggest as the explanation of an evolution which, by means of natural selection, is to explain all things, is that it is so because it is so, then assuredly the last state of unbelief is worse than the first. That things are as they are because they could not be anything else, is a 'dramatic simplification' in very deed. For it is nothing else than a return to the nursery. The faith that saves us from such self-dishonouring delusions, sufficiently justifies itself. The 'sincerity' of all avowals that leading Monists can 'see in the universe, ultimately, nothing beyond matter, force, and necessity,' calls only for pity. It is of no more philosophic significance, than the familiar mood of the devotee who mistakes his own partisan-blindness for sure and certain proof that no others can see anything beyond his range.

Yet it cannot but be matter for both profoundest regret, and sternest opposing, that the iconoclastic zeal of this new-fangled cult, should lead it to conduct its crusade in terms which, to myriads of readers equally intelligent and sincere, cannot but be alike offensive and blasphemous. If it were as true as it is false, the prospect of a 'dying God'—as Christians have learned from Christ to think of God—would be verily a human calamity beyond measurement. Small room, indeed, would there be for the triumph of a philosophy which can offer us only a mocking blank, whether our anxious minds grope backwards in the puzzling past, or our yearning hearts cry out for a nobler future.

We will conclude this chapter, therefore, with the worthier as well as truer words in which a pronounced and thorough-going evolutionist closes his careful survey of the whole case:

As to the conception of Deity in the shape impressed upon it by our modern knowledge, it is no empty formula or metaphysical abstraction which we would seek to substitute for the living God. The infinite and eternal power that is manifested in every pulsation of the universe is none other than the living God. We may exhaust the resources of metaphysics in debating how far His nature may fitly be expressed in terms applicable to the psychical nature of man; such vain attempts will only serve to show how we are dealing with a theme that must ever transcend our finite powers of conception. But of some things we may feel sure. Humanity is not a mere local incident in an endless and aimless series of cosmical changes. The events of the universe are not the work of chance, neither are they the outcome of blind necessity. When, from the dawn of life, we see all things working together toward the evolution of the highest spiritual attributes of man, we know, however the words may stumble in which we try to say it, that God is in the deepest sense a moral Being. The everlasting source of phenomena is none other than the infinite power that makes for righteousness.¹

¹ Fiske, *The Idea of God*, p. 166.



VI

HUMAN IMMORTALITY

‘Individuality and personality are to be distinguished from each other. Individuality is given, personality is won. An animal has individuality—man may become a moral personality. Character, in this sense, does not belong to an animal. In fact I would sum up the whole argument in this one word—personality. I do not employ the term self-consciousness, for it seems to me that self-consciousness is only one element of personality. Reason, intelligence, righteousness, love, are mere metaphors when divorced from their significance as qualities of a person.’

DR. IVERACH, *Theism in the Light of Present-day Science*, pp. 214, 226.

‘Does ever a piano, be it of the choicest workmanship of Ehrbar or Steinway, burst forth into the Rhapsodies of Liszt or the Sonatas of Beethoven, without a master’s hand?’

PROF. NITOBÉ, *Bushido, the Soul of Japan*, p. 188.

‘Our own conscious mind is the only key we possess to unlock the secrets of nature, and if this key will not fit, we have no other.’

G. E. UNDERHILL, *Personal Idealism*, p. 216.

‘Time and eternity are one : he who is and he who is to be, are one and the same person ; and his life, its meaning, purpose, discipline, can never be understood if he be regarded as a mere mortal being, with no existence save what begins with birth and ends at death.’

FAIRBAIRN, *Philosophy of Christian Religion*, p. 150.

‘Perfect personality is reconcilable only with the conception of an infinite Being ; for finite beings only an approximation to this is attainable.’

LOTZE, *Outlines of the Philosophy of Religion* (Dickinson), p. 69.

‘And he, shall he,
Man, her last work, who seemed so fair,
Such splendid purpose in his eyes,
Who rolled the psalm to wintry skies,
Who built him fanes of fruitless prayer,
Who loved, who suffered countless ills,
Who battled for the True, the Just,
Be blown about the desert dust,
Or sealed within the iron hills?
No more? A monster then, a dream,
A discord. Dragons of the prime,
That tare each other in their slime
Were mellow music matched with him.’

In Memoriam, lvi.

VI

HUMAN IMMORTALITY

A WHOLE chapter is devoted by Professor Haeckel, as also by his English champion, to the subject of 'The Immortality of the Soul.' It were difficult to say which succeeds in pouring most scorn upon the notion that death does not end all for mortal men. For the 'uneducated persons' of whom Sir Oliver Lodge speaks,¹ such methods of propagating Monism are doubtless effective, but for thoughtful students of modern science and philosophy it is equally the mark of weakness and of prejudice. If this type of scepticism were content to emphasize the mystery which must ever enwrap a theme confessedly beyond scientific demonstration, or to reaffirm, in the words of Professor Tyndall, that 'theologians must liberate and refine their conceptions, or must be prepared for the rejection of them by thoughtful minds,'² it would be listened

¹ v. p. 136 above.

² *Nineteenth Century*, November, 1878. Or as Flugge, quoted by Curteis (Boyle Lecture for 1884, p. 156), 'Assuredly the Christian belief in a future state is capable of and urgently needs elevation, if it is to be regarded as anything more than a popular mythos, and to possess any interest or attraction for cultivated men.'

to with respect. And even if, in the name of modern biology, it felt constrained to pronounce the verdict of 'not proven' in regard to some current reasons alleged for faith in immortality, a tone of regretful modesty in so doing would have been to its credit, seeing the enormity and pathos of the issues involved. But the exact opposite of this spirit is that which confronts us. So that before we set ourselves fairly to face whatever of serious fact or valid reasoning may be found in these hundreds of pages, it becomes once more painfully necessary to clear away the 'rubbish'—to borrow Mr. McCabe's own term—which, in the form of dogmatisms, assumptions, misrepresentations, sneers, &c., blocks the way to a calm consideration of one of the greatest questions that can occupy a mature mind. Not that it is either our duty or intention here to summarize, let alone survey, all the manifold answers which through the ages have been attempted to the question 'If a man die, shall he live again?' Such a vast undertaking must be left to more competent hands.¹ Our task now, especially on behalf of those unversed in controversy, is to see how much or how little there is in this latest, most popular and most virulent assault upon one of the main elements of Christian belief.

There may, indeed, be no serious objection to a

¹ The comprehensive volume of the late Dr. Salmond, *The Christian Doctrine of Immortality*, may well be commended to the attention of the ordinary reader, whilst the genuine student will require to acquaint himself with the literature mentioned in the Preface to the fourth edition of the same work.

writer stating his conclusions strongly at the end of a chapter devoted to any theme. As when Haeckel says:

If we take a comprehensive glance at all that modern anthropology, psychology, and cosmology teach in regard to athanatism, we are forced to this definite conclusion: the belief in the immortality of the human soul is a dogma which is in hopeless contradiction with the most solid empirical truths of modern science.¹

Although even here the over-assertion is a typical fragment of the self-confident infallibility which exudes everywhere, but is flatly contradicted by fact. For in the present cases there are hundreds, not to say thousands, of students of modern science—a few of whom we will presently specify—who are the very opposite of ‘hopeless’ in this matter; whilst, as above pointed out, it belongs to the very essence of dogmatism so to state one’s conclusions that for those who differ there is only left the option of being accounted fool or knave. The sweeping avowals which bedeck this setting forth of Haeckel’s opinions—and they are never anything more—upon this subject, make such an option absolute.

In the scrutiny of a few moments we may gather quite a flaring collection of sentences which stand out conspicuously, like poppies in a cornfield, on these Monistic pages. Thus:

We have to say the same of athanatism as of theism: both are creations of poetic mysticism and of transcendental faith, not of rational science.²

¹ *Riddle*, p. 75.

² p. 72.

If any antiquated school of purely speculative psychology still continues to uphold this irrational dogma, the fact can only be regarded as a deplorable anachronism.¹

For philosophic modesty, in face alike of the facts and the literature of the subject, the following would be hard to surpass :

We now know that the light of the flame is a sum of electric vibrations of the ether, and the soul a sum of plasma-movements in the ganglion cells. As compared with this scientific conception, the doctrine of immortality of scholastic psychology has about the same value as the materialistic conceptions of the Red Indian about a future life, in Schiller's Nadowessian death-song.²

It is interesting to note, in his latest volume, that Professor Haeckel is convinced that—

With educated people of all classes, no other dogma is so firmly established and highly valued as athanatism, or the belief in personal immortality.³

And yet so utterly childish, superstitious, and deluded are all these, that no word but 'fools' is left to describe them, in face of the alleged fact that—

Modern psychology, physiology, ontogeny, and phylogeny, rigorously refuse an inch of ground for athanatism.⁴

To settle the matter for ever, beyond dispute, we are told in the concluding pages of this work, that—

Modern science has not taught us a single fact that points to the existence of an immaterial world. On the contrary it has shown more and more clearly that the supposed world beyond is a pure fiction and only merits to be treated as a subject for poetry. Comparative anatomy and physiology have shown

¹ *Wonders*, p. 112.

² p. 113.

³ *Confession*, p. 54.

*that the mind of man is a function of the brain and his will not free, and that his soul, absolutely bound up with its material organ, passes away at death like the souls of other mammals. All that comes within the range of our knowledge is a part of the material world.*¹

This style of statement will without doubt be impressive for those who do not know better; although even a schoolboy, if he read this page, might be supposed to ask himself what 'part of the material world' his knowledge of his own thought could be. But for those who do know better, it cannot but be accounted deplorable, if it does not, as Paulsen says, create feelings of 'burning shame,' that such words should, in the name of science or philosophy, be scattered abroad to-day. The plain truth is expressed by Schoeler when he says that—not only as to theism, but equally as to the belief in immortality—'here also Haeckel's assertions are nothing more than empty rhodomontade.'²

It goes without saying that these assertions will lose nothing when echoed in the special pleadings of his chief advocate in this country. Thus we are informed, with customary modesty of expression, that—

God has shrunk into an intangible cosmic principle. Man now sees in the universe at large *no shadow of support* for that promise of unending life he has entertained so long. . . . That, in whatever way, mind-force is an evolution of the general cosmic force, and that it therefore affords *no more* promise of immortality

¹ *Wonders*, p. 454.

² 'Ebensowenig wie der Theismus von der Naturwissenschaft widerlegt ist oder je widerlegt werden kann, ist es mit dem Unsterblichkeits der Fall. Auch hier sind Haeckel's Behauptungen leere Grossprechereien.'—*Kant contra Haeckel*, p. 92.

in the individual *human mind* than it does in the individual *motor-car*, is a scientific induction resting on a mass of evidence, and drawn up in observance of the most rigid rules.¹

This writer appears to have a special fondness for trams and motor-cars by way of illustration, and we shall presently have another opportunity of noting how admirably they serve to contradict his assertions. Meanwhile, it is of no small moment to mark two things in regard to the Monism represented in the words just quoted. The first is that 'mind force' is working in 'the individual motor-car,'² to the same degree and of the same kind as in man; for upon this the alleged analogy rests. The second is that, *per contra*, man is just as really a machine—and nothing more—as a motor-car. We will estimate this presently; but if it be an 'induction,' it does not say much for the 'mass' of the evidence, or the worth of the 'rules' by which it is arrived at.

A few specimens more must, however, be taken, in order to exhibit plainly what we are here compelled to face—surely as strange a mixture of dogmatic assumptions, with contemptuous misrepre-

¹ *Haeckel's Critics Answered*, pp. 61, 65. One might venture, without great risk, to suggest that the authors of *The Unseen Universe* knew as much about modern science even as this writer, for which reason the youthful reader, before he swallows wholesale the potion just set forth, might do well to heed what these duly accredited Professors of Natural Philosophy have remarked hereon. 'Persistent as the school of scientific men who assert the incompatibility of science with Christianity have been in their endeavours to close the door leading from the seen to the unseen, we as resolutely maintain that it must be left open' (p. xix.).

² Individuality in a motor-car is certainly a new conception, for which a patent might be suggested.

sentations, as the history of philosophy provides.¹ It is not a statement of personal opinion, but an actual scientific settlement that he wishes to express, in saying that 'the particular personalities who produce sexual cells in thousands are mortal beings, and at their death their personal *psychic activity* is extinguished like every *other physiological function*.'² After this, it cannot be regarded as surprising that we should be informed that 'the highest intellectual progress is involved in the Monistic view which definitely rules out the three central dogmas of metaphysics—God, freedom, and immortality.'³ Or, again, that the Monism which 'shatters the three central dogmas of the dualistic philosophy—the personality of God, the immortality of the soul, and the freedom of the will'—is 'established by the clear

¹ The more fully these works are studied, the more reason there will appear for the strong words of Professor Adickes—whom, by the way, Haeckel strangely calls 'Erich Adick' (*Wonders*, p. 451): 'Haeckel ist eine durch und durch dogmatische Natur. Und wie allen Dogmatikern geht ihm die Selbstkritik völlig ab, sobald seine Lieblingsmeinungen in Frage kommen. Da verwandeln sich ihm blosse Hypothesen in Sätze sichern Wissens, er glaubt zu beobachten, wo er doch nur seine eignen Gedanken in die Welt hineinträgt. Vorgefasste Ansichten treten zwischen ihn und die Dinge, und die Macht seines Glaubens ist so gross, dass er das wirklich zu sehen meint, was er zu sehen wünscht. So betrügt er sich selbst und Andere.'—*Kant contra Haeckel*, p. 97.

The few extracts I am able to give from Dr. Adickes' brochure can convey no adequate idea of the trenchant thoroughness with which the fatuity of Haeckel's 'philosophy' is therein exposed, by one whose competence in this department is as unquestionable as Professor Haeckel's in anatomy. The student is earnestly recommended to read the whole.

² *Riddle*, p. 67. Note the begging of the whole question in the words italicized.

³ *Riddle*, p. 83.

law of substance.'¹ So, too, the avowal that 'there are few experienced and thoughtful physicians who retain the conventional belief in the immortality of the soul and God,'² is a libel small only by comparison with the other unblushing declaration, that 'for centuries' only thoughtless physicians have had any such faith.³

In the pages of the champion, this blatant bombast naturally suffers no diminution. The reader is assured, rather, that there is very little need for criticism here at all, because—

Haeckel has already destroyed the ground for any claim of a unique character of the human mind. The very latest researches of science confirm his theses. The ablest Christian apologists yield their arms and desert the long-defended breaches. We have been borne along by the flood of scientific evidence philosophically considered—man is the latest and highest embodiment of the universal matter-force-reality.⁴

Whether we share Paulsen's indignation or not, such tall-talk as this is undoubtedly 'deplorable,' when one reflects into whose hands it will mostly fall. 'Popular' readers have not sufficient knowledge to give the lie direct to some of these statements which deserve it; nor have they mental training to enable them to meet 'the lie which is half a truth,' and therefore 'a harder matter to fight.' The sneers with which these Monistic assertions are spiced, make the ever-recurring assumptions still more palatable. Thus, in the short chapter of seven pages before us, Haeckel's valiant defender manages

¹ *Riddle*, p. 135.

² *Riddle*, p. 69.

³ *Wonders*, p. 121.

⁴ *Haeckel's Critics Answered*, p. 62.

to bring in a whole troop of innuendoes such as the following. Immortality is now virtually abandoned by 'all men of science who are honest and informed ;' but 'evolutionists like Fiske, Le Conte, and Newman Smyth, still erect feeble barriers'; Dr. Horton simply indulges in 'insincere rhetoric'; Mr. Williams and Mr. Brierley are merely 'accomplished rhetoricians.' As to those who have not lingered to 'defend any evolutionary gap'—'see how puny and fruitless are the efforts they make to overleap the unbroken and impregnable barrier of Professor Munsterberg.'¹ Professor Le Conte—who is made responsible for 'a spark of the divine energy' in another 'motor-car'—is merely the concocter of a 'fantastic theory' whose 'frailty is obvious.' Mr. J. Fiske only pens

¹ A sentence of Professor Munsterberg is quoted with great gusto by Mr. McCabe against any doctrine of individual immortality. We shall presently see whether this same Professor renders any service to Haeckel's monism. The references to Professor Le Conte, W. James, J. Royce, are equally misleading, as will appear in due course. We have already remarked upon the assumption of superiority with which this writer exclaims, in his brochure, 'do not contract the slovenly and expensive habit of trusting a controversial writer'—and, one is regretfully compelled to add, especially in regard to Monism. Take as a crucial and typical instance the reference to Dr. W. N. Clarke. On p. 13 we find, in the usual style, the sentence already quoted, 'I will give you pages throughout, which Mr. Ballard never does.' In my case, editorial limits in a weekly paper made all space precious; and every sentence was accurately quoted in inverted commas, with the intimation that all pages would be given, as they now are in this volume. In the case before us, no page of reference is given to Dr. Clarke's volume, and the statements in the sentence on p. 67 of *Haeckel's Critics Answered*, are both utterly contrary to the truth. Says Mr. McCabe, 'Even Dr. W. N. Clarke (who, with many modern theologians, does not believe that the "soul" is transmitted from parent to child) says the facts of heredity point to the mechanical, not the spiritual, theory.' Now, will it be believed by the ordinary reader that

an 'egregious statement,' so that 'at the end of this petty and petulant criticism' he presents 'a conclusion almost less satisfactory than that of Le Conte.' As to Mr. Newman Smyth, he simply 'makes a desperate effort totally opposed to scientific evidence,' with a 'supplementary consideration,' which is 'still feebler,' and only 'a most perverse piece of reasoning.' Finally, 'the feeble defences which are to-day set up by the apologists who have scientific attainments in the Christian body' do but amount to 'a fantastic and desperate philosophy'; whilst as to any arguments from the moral order of human life, they are not even worth noticing.

Now, the 'perfect fidelity' with which it is alleged other teachers than Haeckel are here represented, may be estimated from the notes below; and all one need add to the above specimens of the 'patient

the words of Dr. Clarke are as follows? 'So we come to the theory of Transmission or Traducianism. The entire being of the individual, body and soul together, is derived by natural process from the previous being of the parents. This is the only theory that explains the facts. Man, body and soul, is born of parents.' Whilst as to heredity in general, the 'mechanical' theory is not even mentioned, but what is affirmed is this: 'Since life is passed on as a whole from parents to children, inheritance relates to the entire being, bodily and spiritual. The continuous life is human, and each individual in the long succession is a person, self-centred, with a will of his own, and not a thing made as if by machinery; each individual is a living soul in a living body, and yet each is only such a man as his ancestors were capable of producing under the conditions in which he was produced' (*Outline of Christian Theology*, pp. 217-19). This comparison, therefore, reduces to the mere cant of Monism such remarks as that the pursuit of truth 'should be conducted with dignity and especially with a scrupulous honesty.'

¹ The reader is especially desired to procure Mr. Fiske's little volume entitled *Life Everlasting*, and see for himself how far these epithets of contempt can find any justification in truth.

and calm investigation' with which Haeckel's advocate declares that 'the frail spirit of truth must be sought,' is that if the foregoing be by 'Rationalism' accounted calm, and patient, and dignified, to say nothing of being true, then, once more in the writer's words, 'we shall need to consider our moral'—and intellectual—'terminology.'

When, through much repetition, one becomes sufficiently accustomed to the 'sound and fury' of Monism's denunciations to disregard them, the plain truth emerges that the real grounds of the Haeckelian tirade against what he terms 'athanatism,' are pure assumptions. These must now be yet more plainly exposed. Exhaustive treatment is neither possible nor necessary. If the assumptions are shown to be unwarranted, the theory¹ that death ends all cannot be underpinned by any amount of Monistic preference or assertion.²

I. The first assumption upon which 'thanatism' depends, is the validity of the Monistic theory of mind. If this were true, so true as to rule out all other theories from consideration, no doubt 'athanatism' would become unthinkable. But is this so? Most

¹ For it is no more. The formula (*Riddle*, p. 68), 'Our monistic, empirically-established thanatism,' is a misnomer. Thanatism can no more be 'empirically established' than athanatism.

² 'Haeckel's Materialismus ist auch ein Glaube, und dazu noch ein recht plumper, ein—Aberglaube, bei dem das wirklich der Fall ist, was dem Theismus und der Unsterblichkeitshoffnung mit Unrecht vorgeworfen wird: er widerspricht ursprünglichsten, bestbekannten Thatsachen: die ganze Bewusstseinswelt zeugt wider ihn.'—Adickes, *Kant contra Haeckel*, p. 97.

assuredly it is not. It is, indeed, doubly discredited. Not only does it ride rough-shod over and through facts, in utterly unscientific fashion, but it cannot even be broached, as a theory, without assuming other theories equally unwarrantable. To these latter we shall come presently. For the moment we are simply concerned to repeat what has been, one would think, sufficiently demonstrated in a previous chapter, viz. that the Monistic avowal that thought is merely a function of brain—a 'production' of cerebral centres in the grey bed of the brain¹—is as false to psychological science as it is to personal consciousness.

But as the object of these pages is mainly to show what others who merit hearing, besides Haeckel, think upon these matters, we may ponder the following, in addition to foregoing opinions. The Monist will doubtless deem this quite unnecessary. For what Mr. D. Syme says in regard to Maudsley applies not only to the chief continental exponent of monism, but his English representative.

Maudsley informs us that, after the most careful consideration, he has arrived at the assured conviction that mind is the function of the brain. He is by no means singular in holding this opinion: it is only his mode of presenting it that is peculiar, his assurance

¹ As above cited:—'Those highest instruments of psychic activity that *produce* thought and consciousness.' A statement as sensible, and as scientific, as to speak of 'those silver instruments of sound which produce music' in our parks. And when Mr. McCabe, with wonted verve, promptly assures us that the instrument is 'automatic,' it is enough to reply that when we meet with an aggregation of such instruments, so producing music, we will pay both them and him all heed.

that it is the correct view being apparently all that he thinks requisite to ensure its acceptance.¹

We must, however, assure him, and all who think with him, that a great deal more is requisite for such result. Professor W. James, indeed, whom Mr. McCabe can quote when it suits him, goes so far as to say that even the 'production theory' of thought 'has in strict logic no deterrent power' as regards immortality²; that 'even though our soul's life may be in literal strictness the function of a brain that perishes, yet it is not at all impossible, but on the contrary quite possible, that the life may still continue when the brain itself is dead.' This he proceeds to illustrate by his 'transmission theory,' but it is not necessary that we should accept such theory as the only alternative, in order to explode the Monistic assumption here.

Whether we care or not for immortality in itself, we ought, as mere critics doing police duty among the vagaries of mankind, to insist upon the illogicality of a denial based on the flat ignoring of a palpable alternative.³

This much is in any case certain,⁴ that—

In the production of consciousness by the brain, the terms

¹ *The Soul, a Study and an Argument*, p. 92.

² *Human Immortality*, the Ingersoll Lecture for 1898 (Constable's edition), p. 26.

³ p. 39.

⁴ In this connexion Professor James also quotes with approval (from *Riddles of the Sphinx*, by Mr. F. C. S. Schiller, of Oxford) the statement that 'matter is not that which produces consciousness, but that which limits it, and confines its intensity within certain limits; material organization does not construct consciousness out of arrangements of atoms, but contracts its manifestation within the sphere which it permits' (p. 122).

are heterogeneous natures altogether: and as far as our understanding goes, it is as great a miracle as if we said, Thought is spontaneously generated, or created out of nothing.¹

Most truly also does Professor James Ward say, concerning the 'biological specialist,' of the type of Professor Haeckel:

He talks naively of protoplasm, bioplasm, germ-plasm, and the like, without ever suspecting that under cover of this figure of plasticity he is availing himself of psychological conceptions that he, equally with the physiologist, is bound to disavow.²

And since Mr. Fiske's views, from the standpoint of his pronounced evolutionism, have been styled 'egregious,' 'petty and petulant,' it is only fair that the reader should judge for himself. He is within his rights when, in regard to this 'function' theory, he says that—

Before we yield any modicum of assent to this statement, we may observe that 'function' is a word with a wide range of meaning, and we must insist upon some closer definition.³

But when we get this closer definition, what does it come to? This, which embodies all latest science:

The natural history of the mass of activities within our bodies shows us a closed circle which is entirely physical, and in which one segment belongs to the nervous system. As for our conscious life, that forms no part of the closed circle, but stands entirely outside of it, concentric with the segment which belongs to the nervous system. . . . It may be that thought and feeling could not continue to exist if that physical segment of the circuit were taken away. It may be that they could. To assume that they could not, is surely the height of rash assumption.⁴

¹ *Human Immortality*, p. 45.

² *Naturalism and Agnosticism*, ii. p. 28.

³ *Life Everlasting*, p. 67.

⁴ *Ibid.*, p. 79; *Through Nature to God*, p. 156.

So that there is good warrant for saying that the materialistic-monistic theory of things 'soon loses its sober and plausible appearance, and is seen to be eminently rash and shallow. There is no such correlation or equivalence as is alleged between physical forces and the phenomena of consciousness.'¹

Moreover, the reply of Mr. D. Syme to Maudsley's confident assurance, applies with even greater force to Haeckel's position, by reason of his advocate's constant insistence that in the 'vast hierarchy of facts we see the world-force ascending upwards until it grows self-conscious in the human brain.'² For—

If mind had not appeared on the scene till after the advent of brain, there might have been some justification for the statement, however difficult it might be to understand. But brain is only the last of a long series of structural developments in animal life, in which the mind has played a not unimportant part. If he had explained *how* mind is the function of brain, his contribution to one's knowledge would have been valuable. But he has first to show how inert matter can produce a living organism; next, how physiological processes can produce mental function.³

Needless to say, Monism does neither of these.

¹ *Through Nature to God*, p. 155.

² *Haeckel's Critics Answered*, p. 58. Apart from the fact hinted at above, that it would be difficult to conceive of any force 'ascending' downwards, surely Monistic special-pleading overreaches itself here to a notable extent. For most certainly it is *not* the hypothetical 'world-force' which is self-conscious at all in my brain. It is I who am conscious of myself, and of myself as distinct from any other 'force'. To affirm that I am no more than an infinitesimal fraction of the 'world-force,' is but one of those sheer assumptions which would make anything but this Monism ashamed at the hugeness of the *petitio principii*.

³ *The Soul, a Study and an Argument*, p. 93.

Its thesis, that 'mind is the function of brain,' is as utterly devoid of scientific warrant as it is confessedly essential to the dogma of 'thanatism.' What Professor Tyndall wrote a quarter of a century ago remains as true as ever:

The passage from the physics of the brain to the corresponding facts of consciousness is inconceivable as the result of mechanics. Granted that a definite thought and a definite molecular action in the brain occur simultaneously, we do not possess the intellectual organ, nor apparently any rudiment of the organ, which would enable us to pass, by a process of reasoning, from the one to the other. They appear together, but we do not know why. The problem of the connexion of body and soul is as insoluble, in its modern form, as it was in the prescientific ages.¹

¹ *Fragments of Science* (6th edition), vol. ii. pp. 87, 88. It pleases Mr. McCabe to say, when the deliberate judgement of scientists like Huxley and Tyndall is shown to be utterly opposed to some of Monism's pet notions, that 'it is easy to quote Huxley and Tyndall in opposition to Haeckel's formula.' But why more easy than for him to quote on every page from all and sundry on behalf of such formula? And what has easiness on either side to do with the matter? The question is whether either science or philosophy, as represented by those best qualified, justifies such a formula. One may say indeed that 'it is easy' to write such a sentence as this: 'Proceeding on realistic and scientific lines, we are driven by the *rules of induction* to regard thought as wholly bound up with brain, and to look for no third element beyond the matter and force of which the brain is so intricately constructed.' This sort of thing may do for the man in the street who does not know better; but the student of physiology, let alone of psychology, does know better, and knows that it is false to say in the above extract 'the rules of induction.' The proper phrase would be 'the exigencies of monism.' As a specimen utterance to the contrary we might take that of Professor Draper, whose well-known work upon *The Conflict between Science and Religion* will sufficiently guarantee him against any supposition of 'superstitious' leanings. In his *Physiology* (p. 285) he avows, after referring to the inertness of the apparatus for sight and sound without external stimulus, 'Since there is between these structures and the elementary structure of the cerebrum a perfect analogy, we are entitled to come to the same

II. Although very closely akin to the above, it is necessary to consider again the Haeckelian estimate of 'soul.' His definitions we have seen to be somewhat mixed, but we must make the best of them.¹ First let us take the plainest declarations. In the latest work we read unmistakably that 'the soul of man is a physiological function of the phronema.' To this 'phronema' we must presently return. Meanwhile, it is to be noted that the 'soul' is precisely the same as the 'mind.' For earlier in the same work we find that—

When we speak of man's mind as a higher psychic function, we mean a special physiological function of the brain, or that particular part of the cortex of the brain which we call the phronema, or organ of thought.²

We have already noted the statement in *The Confession*, that 'the soul is a sum of plasma-move-

conclusion in this instance as in those, and, asserting the absolute inertness of the cerebral structure itself, to impute the phenomena it displays to an agent as perfectly external to the body and as independent of it as are light and sound: and that agent is the soul.' Whether we accept Dr. Draper's exact view or not, it is at least sufficient to set us free from the tyrannic hustling of Haeckel's champion. He may be 'driven' to think as he says. We are not. Indeed, as I have been much ridiculed for intimating that all these Haeckelian allegations have been 'anticipated,' I may quote that which was written years ago, by two of the ablest Professors of Natural Philosophy, in *The Unseen Universe* (9th edition, p. 5): 'We attempt to show that we are absolutely driven by scientific principles to acknowledge the existence of an unseen universe, and by scientific analogy to conclude that it is full of life and intelligence—that it is, in fact, a spiritual universe and not a dead one.' And I will venture to add that all the most really advanced scientific thought of to-day rather tends to confirm than to oppose that judgement.

¹ For a trenchant exposure of these, see the able booklet of Mr. Thomas Child, entitled *Root-principles* (Allenson, 6d.), pp. 57-68.

² *Wonders*, p. 90.

ments in the ganglion cells.' Now, it is surely manifest, beyond dispute, that the sum of movements can only be movements.¹ Whence it follows, comparing this with the preceding definitions, that the 'function of the phronema' is simply to produce a sum of movements. Which may be true; but it is at least equally true that no sum of movements of any kind whatever, can, by any possibility, constitute 'mind,' let alone 'soul.' The perception of this is, perhaps, the cause of other and differing statements elsewhere. Thus, in *The Riddle* we have learned that the soul is 'merely a collective idea of all the psychic functions of protoplasm—merely a physiological abstraction like assimilation or generation.'² But putting these together, the question which immediately thrusts itself upon us is, How many 'movements' does it take to make an 'idea'? For if sane thought can make anything whatever clear, it is that the idea of any number of 'movements' summing up into an 'idea' at all, is utterly preposterous and unthinkable.

We must here resume our former scrutiny,³ although we shall find confusion becoming only worse

¹ As Adickes well says: 'Könnte ein Mensch im Gehirn herumspazieren wie in einer Fabrik und verstünde er jedes Ineinandergreifen der Räder und Schrauben: was sähe er? Bewegungen und immer wieder Bewegungen und nichts Anderes!'—*Kant contra Haeckel*, p. 19.

² p. 39. Here is especially to be noted the neatness of the transition from a 'function' to the 'idea of a function.' What, then, is this also but a meek *petitio principii*—the immaterial being calmly 'posited'—as Mr. Clodd would say—as a perfect synonym for the material.

³ v. pp. 169-196.

confounded as we proceed. On the same page of *The Riddle* (39) we are told, first, that the soul is 'merely an abstraction,' and then, that 'a certain chemical composition and physical activity are indispensable before the soul can function or act.' But surely it is beyond even Monistic imagination to conceive of an abstraction 'functioning' under any circumstances. How, through any conceivable combination of physical or chemical activities, a 'collective idea' can 'act,' passes rational comprehension. It is, however, on a par, for quality alike of science and philosophy, with the further statements that—

The physiological argument shows that the human soul is not an independent immaterial substance, but, like the soul of all the higher animals, merely a collective title for the sum total of man's cerebral functions; and these are just as much determined by physical and chemical processes as any of the other vital functions, and just as amenable to the law of substance.¹

Now, the whole worth of Professor Haeckel's contemptuous dismissal of immortality, may fairly be gauged from such an utterance as this. For, first, we have here the usual Monistic assumption that the whole psychological 'argument' is swamped in the physiological. Then, the insinuation that those who oppose his views, regard the human soul as an 'independent immaterial substance,' which they do not. Then, the further transformation of definition in that the soul, which was at first a 'sum of

¹ *Riddle*, p. 72.

plasma-movements,' then a 'collective idea,' then an 'abstraction,' now becomes a 'collective title'—that is, a mere name. Then, again, we have the reiterated question-begging of the whole, in the triple assumption that (1) there is nothing in human consciousness beyond brain function; (2) that all there is is 'determined' in precisely the same way as any other of the vital functions—in no one of which is consciousness an element; (3) that all the mental activities of the soul are as amenable to the 'law of substance' as, say, breathing—where there is no mental activity at all. Now, not one of these assumptions can be maintained, as was shown above, on scientific lines. Yet the same unwarrantable sophistry distinguishes the rest of the alleged 'sound scientific arguments against immortality' which are here (pp. 72, 73) grouped under the terms histological, experimental, pathological, ontogenetic, phylogenetic. At the conclusion of this noteworthy paragraph, we are also told that—

These inquiries, which might be supplemented by many other results of modern science,¹ prove the old dogma of the immortality of the soul to be absolutely untenable: the 'critique of pure

¹ This is mere polemic bluster, for every student of modern psychological science knows well that the present trend of investigation is very much more towards the establishment of conceptions unfavourable to the materialism—or monism—which would positively exclude athanatism. Thus Professor J. Ward, writing in *The Hibbert Journal* (Oct. 1905), p. 99, says: 'Referring to the progress of the biological sciences, we find a German physiologist (G. Bunge) maintaining: *So treibt uns der Mechanismus der Gegenwart dem Vitalismus der Zukunft mit Sicherheit entgegen.*

reason¹ shows this treasured faith to be a mere superstition, like the belief in a personal God which generally accompanies it.

How utterly, indeed, such dogmatism is compelled to give itself away, every time it attempts even to state its own attitude, is again and again exemplified. Take now but one instance. Says Haeckel:

We must therefore distinguish in the 'substance of the soul' the characteristic psychic *energy* which is all we perceive (sensation, presentation, volition, &c.), and the psychic *matter* which is the indispensable basis of its activity—that is, the living protoplasm.²

Now here, manifestly, 'psychic' can connote nothing less than 'mental,' and there is no scientific warrant whatever for assuming that living protoplasm is 'mental matter.' Such a phrase is really a contradiction in terms, mere words strung together for the convenience of Monism. Nor is it any more true that we perceive mental 'energy' in sensation, &c.; for it is precisely the sensation, and not the energy, which we perceive. But we are more especially bound to ask, What is the meaning of this 'we,' thus slipped in as necessarily as conveniently? If 'we' perceive sensation, it is surely beyond controversy that the perceiving 'we' is distinct from the perceived sensation. If not, then there is no perception at all, for there is nothing perceiving. But if the 'psychic energy' which expresses itself in the perceived sensation, be nothing

¹ Here the inverted commas might seem to throw upon Kant the responsibility for the following sneer. But every student of Kant knows that such an imputation is utterly false.

² *Riddle*, p. 70. Italics the author's.

but the functioning of the protoplasm, what and whence is the perceiving 'we'? 'I can never catch myself without a perception,' says Hume. Indeed? Why, the very first word of such a rejoinder shows that the self he cannot 'catch,' is there to do the catching. Such *catching* is certainly not the condition of *being*.

The truth is that there is no 'we' in materialistic monism. It is altogether irrelevant—or, as Mr. McCabe would say, 'throwing dust'—to talk about the 'phronema' being 'the most perfect morphological product of plasm.'¹ Certainly the more perfect it is, the more absurd is the suggestion that it is nothing but the result of 'necessity' working through 'blind chance.' Furthermore, to assert that 'its physiological function—mind—is the most perfect action of a "dynamo machine," the highest achievement that we know anywhere in nature,' is no less misleading. For, apart from the ever-recurring question-begging in regard to 'function,' there are two utter delusions here intertwined. First, in the words of Mr. D. Syme :

A mechanical toy may be made to play all sorts of pranks, and even to speak (and to write), but a piece of mechanism that will feel, think, and will, has yet to be invented.²

¹ *Wonders*, p. 342.

² *The Soul*, &c., p. 93. One cannot but recall the words of Professor Adickes, 'Wenn ein neues Wort auch eine neue Erklärung bedeutete, dann wäre kein Werk reicher an letzteren als die "Welträtsel." Aber wie wird der neue Terminus näher bestimmt? Mag Haeckel hundertmal das Wort "chemisch" zur nähern Erklärung hinzusetzen: er stellt blossе Behauptungen auf, ohne auch nur den Schatten eines Beweises oder einer anschaulichen Konstruktion zu liefern?' (p. 93).

And secondly, as we have seen above (p. 185), on such testimony as that of Dr. A. Hill, all talk about 'millions of psychic cells'—each a small chemical laboratory—contributing to thought, is directly contradicted by most recent science. Besides which, consciousness knows nothing about millions of phronetal cells. The 'I' which Hume took in his hand when he went out to 'catch' it, knows itself only as a unity. This unity constitutes the difference, so far as words can express it, between 'mind' and 'soul.' By the former we understand diffused mentality as exhibited in all those processes of thought which Monism confusedly seeks to identify with molecular movements of 'psychoplasm.' But 'soul' stands for the concentrated mentality which is found is the unified self-consciousness of every normal human being, and of which Monism can give no account whatever. How futile, therefore, is its attempt to rule out the possibility of immortality may be summarized in the words of Dr. Momerie and Mr. Fiske. Says the former :

Since, then, the necessity for an ego is never denied without being tacitly assumed, it may be taken to be really a self-evident truth, the contradictory of which is inconceivable, that, along with every sensation or feeling of any description whatever, there must exist a sentient principle capable of feeling it.

Suppose a line of billiard balls, each self-conscious, but with no principle of connexion running through them, and suppose that motion is communicated to the first, transferred to the second, and so on—in what possible way could the last be conscious of its relation to the others? Without some such principle of continuity I see no more reason to suppose that one state could know anything of another than that I, by

introspection, could remember the actions my father committed before I was born.¹

Miracles are a departure from the ordinary course of nature: immortality is a continuance of it. If there be a soul, it is something distinct from brain. That is what soul means. And as the brain and the soul are distinct existences during life, there is no violation of law if they remain distinct existences after death. So that it is possible to believe in immortality, and at the same time to believe in the absolute unchangeableness of the ordinary course of nature.²

And Mr. Fiske sums up his position as an ardent evolutionist thus:—

Materialists sometimes declare that the relation of conscious intelligence to the brain is like that of music to the harp, and when the harp is broken there can be no more music.³ An opposite view, long familiar to us, is that the soul is an emanation

¹ *Personality*, pp. 28, 46.

² *Basis of Religion*, p. 15.

³ A moment's thought shows that the only support this hackneyed illustration affords to Monism is based, as usual, upon pure assumption. It is assumed that there is no player, but that, in Mr. McCabe's words, 'the instrument is automatic.' It is a sufficient reply to all such assertions to ask for the production of *any* instrument that is automatic. Such being never forthcoming, it is plain that the attempt to make the human 'machine' a huge exception, is altogether without warrant, the mere shift of a 'desperate' philosophy. If it be madness to suggest that a fairly good organ containing thousands of parts should bring forth music as a 'function' of these parts, without any player, so much the more preposterous is it to expect a far more complex instrument containing 'millions of psychic cells—each of them of an extremely elaborate molecular structure' to produce of itself a correspondingly more wonderful music. For the greater the complexity, assuredly the greater, without direction and control, the liability to confusion. Moreover, the futility of the usual trite reference to diseased or injured brain, as showing that there is nothing but brain, is even more clear. For when the greatest organist living is seated at the organ, producing noblest harmonies, let a mischievous boy make a sufficiently large slit in the bellows, and what becomes of the music? Does it follow that there can be no more? Even if the instrument be damaged beyond repair, who is to say that the player may not be provided with another and a better?

from the Divine Intelligence that shapes and sustains the world, and during its temporary imprisonment in material forms the brain is its instrument of expression. Thus the soul is not the music, but the harper: and obviously this view is in harmony with the conclusions which I have deduced from the correlation of forces. Upon these conclusions we cannot directly base an argument sustaining man's immortality, but we certainly remove the only serious objection that has ever been alleged against it.¹

III. But it is impossible to separate the human mind and soul from the concomitant conception of personality. All that this involves we need not here even attempt to summarize.² It is enough for us to inquire what Haeckel means when he says that 'man is dead when his own personality ceases to exist';³ and what is the worth of its contribution to his insistence upon 'thanatism.' In accordance with his estimate of mind and soul, it is soon manifest that 'personality,' in his employment of it, is far from connoting its usual psychological significance. There is no thought of any unified total, including the bodily and mental activities of an ego. Especially is there no hint at any recognition of that self-determination which most students are accustomed to accept as the essence of personality.⁴

¹ *Life Everlasting*, p. 80.

² The ordinary reader may be referred to such works as the following for a fair consideration of this vast and complex theme: *Personality*, by Dr. A. W. Momerie (Blackwood); *Personality, Divine and Human*, by Dr. Illingworth (Macmillan); *Personal Idealism*, by Henry Sturt and others (Macmillan), &c., &c.

³ *Riddle*, p. 67.

⁴ 'Darum müssen wir etwas, was selbst nicht wieder bloße Vorstellung ist, als schöpferischen Quell dieser geistigen Lichtwelt annehmen—eine Seele in uns and in allem Lebenden. Denn die Identität der Persönlichkeit—das Ich—beruht nicht auf der Einheit

On the contrary, we learn that it is nothing more than individuality, and the real individual or the 'histonal individual'—or more briefly 'the histonal'—is only 'the definite *physiological* unity of the multicellular and tissue-forming organism.' There are thus 'three stages of organic individuality, one building upon the other—the cell, the person, or sprout, and the stem or state.' Now, if this were really all that we have to consider in human personality, the immortality of man need occupy us no longer than that of cabbage. Whatever be the grade of organism, if the 'individual' merely connotes the aggregation of cells, when these are disintegrated at death there is plainly an utter end of the individual. Returning to this in a moment, we simply note here that Haeckel himself acknowledges a great deal more when, at the commencement of his attack upon what he says is regarded as 'the impregnable citadel of all mystical and dualistic notions,' he refers to 'the selfish interest of the human personality, who is determined to have a guarantee of his existence beyond the grave at any price.' This is rather a strange proceeding on the part of a mere 'histonal.' It is certainly so far true in that it points to the strength of the desire for immortality, on the part of average humanity at its best.

But what is the meaning of such a desire, and whence does it arise? Professor Royce, whom Mr.

und dem Zusammenhange des Bewusstseins, sondern auf der Identität des allen bewussten Vorgängen zu Grunde liegenden Willens.'—Schoeler, p. 96.

¹ *Wonders*, p. 153, 158, 170.

McCabe styles 'a distinguished American philosopher and Gifford Lecturer,' says that 'we shall come to see that in defining the individual man we have indeed been defining his immortality!' and proceeds:

What I want to show you is that the chief mystery about any man is precisely the mystery of his individual nature, i.e. of the nature whereby he is this man and no other man. I want to show you that the only solution of this mystery lies in conceiving every man as so related to the world and to the very life of God, that, in order to be an individual at all, a man has to be very much nearer to the Eternal than in our present life we are accustomed to observe.¹

This gives us, truly, a vision of personality very different from that of a mere biological 'histonal.' The reply of Haeckel to any such suggestion is but what we should expect. Its modesty is especially noteworthy:

Hence we must not be too hard on the metaphysical philosophers when—in complete ignorance of the real facts—they rear the most extraordinary theories in their airy speculations on the principle of individualization. Many metaphysicians, who in their one-sided anthropism make man here also the measure of all things, would assign personal consciousness as the basis of the idea of individuality.²

Upon this one must remark that since, by Haeckel's own avowal,³ speculation may guide to truth, an 'airy speculation' may be as legitimate as a muddy one. Whilst if onesidedness be tolerable—and there has assuredly never been a more marked example of it than Monism—it had better be for many reasons the side that looks towards anthropism

¹ *The Conception of Immortality*, Ingersoll Lecture, 1899, pp. 4. 5.

² *Wonders*, p. 158.

³ *Riddle*, p. 7.

than that confronting animalism. For which cause—with all respect to this papal assurance of their 'complete ignorance of the real facts'—we will here mark what three modern teachers have to say who, by all intelligent judgement, are quite as qualified to estimate the facts of the human mind-world—and these are every whit as 'real' as those of the monera-world—as the eminent Professor of Jena is in other departments.

Thus wrote Dr. Momerie :

The denial of personality is the denial of knowledge. Without a metaphysical ego there could be neither memory nor sensation. The attempt to disprove the existence of such an ego is only rendered apparently successful by that existence being throughout assumed. Its very negation is tantamount to its affirmation : for without this principle of permanence the concept employed in its denial could not possibly have been formed. In other words, the personality which should be the beginning of metaphysics is essential to the conception and statement of every anti-metaphysical argument. . . . They say there is no ego : yet they talk of 'I,' 'he,' 'we,' 'our mind,' 'our intelligence,' &c., which expressions are merely synonyms for the ego. If we were to extract from the writings of anti-metaphysical thinkers everything that had a metaphysical signification, what remained would be as meaningless as a Euclid from which all the symbols had been omitted.¹

In his *Scientific Fact and Metaphysical Reality*, Mr. R. B. Arnold wrote :

Now, if we rid ourselves entirely of the effects of the lingering ideas of spirit, or mind, as being a separate essence, it will become apparent that the immortality of the human personality

¹ *Personality the Beginning and End of Metaphysics, and a Necessary Assumption in all Positive Philosophy*, by A. W. Momerie, M.A., D.Sc., LL.D. (sometime Fellow of St. John's College, Cambridge, and Professor of Logic and Metaphysics in King's College, London), pp. 132, 134.

is not only compatible with a view of our psychophysical organisms which is at first sight completely materialistic, but would merely be an illustration of a principle hitherto considered operative in the universe.¹

In his recent volume upon *The Limits of Evolution*, &c., dedicated 'to all who feel a deep concern for the dignity of the soul,' Dr. Howison includes a section upon 'Human Immortality—its Positive Argument.'² The sum of his findings is that—

To prove continuance it suffices to display the self as the spontaneous source of perceptions simply. And thus the easy argument of exhibiting the least conditions sufficient for experience carries in its subtle heart the proof of an imperishable persistence in all that gives life meaning and value.

The scorn with which the Monist will receive this, could only be justified by one thing, viz. omniscience. But it is only fair to the able writer just named,³ to

¹ p. 339. An interesting comment upon the Haeckelian contempt for metaphysics above quoted is the talented author's remark in the Preface—'The present work deliberately introduces concrete details and illustrations derived from science, but no fact is considered except with reference to its bearing on some metaphysical problem.' Alas that it should be the author's last, as well as first work!

Similarly writes Dr. Rice (*Christian Faith in an Age of Science*, p. 280), 'If a monistic philosophy should become established it would indeed banish all forms of the faith in immortality which find their rationale in the conception of spirit as an essence distinct and separate from the body.' This will not trouble any thoughtful Christian believer, although there are doubtless many who are rightly included in the further remark of Mr. Arnold (p. 345) that 'the universe does not at least exclude either a real God or human immortality, though we are convinced that the principle on which such a consummation might be realized in the future must be far removed from popular notions on the subject.'

² Second edn., 1905, Macmillan, pp. 279-312. The whole of this thoughtful essay merits the careful attention of the student.

³ G. H. Howison, LL.D., Mills Professor of Philosophy in the University of California.

allow him a little fuller statement of a philosophical judgement which is quite as scientifically grounded as anything from the pen of Professor Haeckel.

So a sufficiently strict interpretation of the modern psychological doctrine, instead of merely making materialism give way, and yield place for a chance and hope that we *may* be immortal—instead of simply leaving room for the imperishable eternity of the universal *mother sea* of mind—lays sure the foundation for a certainty that we *each* belong to the eternal world, not simply to the world of shifting and transient experience. It provides for *our* selves, for each of them individually, a place in the world not merely of consequences and mediated *effects*, but of primary and unmediated *causes*. Hence it gives us assurance that death no more than any other event in experience is our end and close, but that we survive it, ourselves the springs that organize experience. It shows us possessed, intrinsically, of the very roots and sources of perception, not merely of its experienced fact, and so presents us as possessed of power to rise beyond the grave—yes, in and through the very act of death—into new worlds of perception.¹

IV. The mention of death brings us to notice next Haeckel's definition and estimate of it, as the efficient factor in his 'thanatism.' Manifestly, if we are to know exhaustively what death does, we must know what death is. But this is precisely what we do not know, and cannot get to know. We are, necessarily, no nearer to a definition of death than we are to one of life. And, as we have seen above, it is quite untrue to say that 'monistic thanatism' is 'empirically established.' There is only one way in which that could be done, viz. that the Monist should die—i.e. be 'extinguished'—and then return to tell us. But in that case his very return would suffice

¹ *The Limits of Evolution, &c.*, p. 302.

to prove that his report was false. Nor does it at all help, to regard death as merely the antithesis of life. For we do not know what life is. The assertion that inquiry 'has shown us that it is in the ultimate analysis a chemical process'¹ is sheer assumption, as we have pointed out in a preceding chapter. Certainly it is no definition of life to avow that it 'consists in a continuous alternation between the upbuild and the decay of the highly complicated chemical unities of the protoplasm.' This defines the work but not the nature of life. So that when Haeckel quotes from Verworn and Kassowitz—'If this conception is admitted, we may rightly say that we know what we mean by death,' it is only necessary to reply, definitely, that this conception is not admitted. Why should it be, when it does not cover anything like the whole case? If, indeed, it be clearly understood that 'physiological death' is all that is contemplated, it might be allowed to pass with a caveat. But unless and until it be *demonstrated* that man is *nothing more* than a physiological machine, human immortality is certainly not disproved by merely physiological death. The definition attempted in *The Riddle* manifestly includes more than this:

We give the name of thanatism to the opinion which holds that at a man's death not only all the *other* physiological functions are arrested, but his soul also disappears—that is, that sum of cerebral functions which psychic dualism regards as a peculiar entity independent of the other vital processes in the living body. . . . By death we understand simply the definitive cessation of the *vital* activity of the individual organism, no matter

¹ *Wonders*, p. 101.

to which category or stage of individuality the organism in question belongs.¹

Now, here it will be seen at once, that the worth of these definings depends in each case upon the word we have italicized. If the assumption were granted that the human soul is merely a sum of physiological functions, like breathing or digestion, then that which arrests the latter might well also put an end to the former. But the unwarrantableness of such an assumption has been sufficiently demonstrated.

Or again, seeing that in Monistic terminology 'vital' only means chemical, if all the activities—including the psychical—of the human organism were incontrovertibly shown to be merely chemical, it might be conceded that death puts an end to physiological chemistry in the human frame. But assuredly Monism has never yet given us—nor ever will give—any chemical definition of thought, let alone of love, or hate, or will.²

¹ p. 67.

² The attempt to do something like this in connexion with the coalescence of sexual cells in conception, under the name of '*erotic chemico-tropism*' (*Riddle*, p. 23) is well ridiculed by Professor Adickes: 'Erotischer Chemotropismus wie das vielsagend klingt! und wie einfach die Lösung zu sein scheint! Nur chemische Kräfte und Affinitäten als Regulatoren jenes geheimnissvollen Prozesses! Aber wie wird der neue Terminus näher bestimmt? Durch die Ausdrücke "sinnliche Empfindung," "eine dem Geruch verwandte Sinnesthätigkeit." Ist das auch noch Chemie? Ich glaube, ein Chemiker, der erkennen und erklären, und nicht nur Worte machen will, würde sich ganz entscheiden weigern, diese "Sinnesthätigkeit" aus nichts anderem als allein chemischen Kräften abzuleiten. So wie er den Befruchtungsprozess beschreibt, handelt es sich nicht um chemische, sondern um psychische Vorgänge.'—*Kant contra Haeckel*, p. 93.

Both of these would-be definitions, therefore, fall to the ground, along with the unwarranted assumptions upon which they are based.

But even if they were all allowed to stand, they would not support Haeckel's 'thanatism,' save at the cost of wrecking his 'monism.' For we must ask again,¹ what is the necessary result of this avowed 'cessation of the vital activity of the individual organism'? If this manifold activity be, as Monism alleges, purely chemical or mechanical, and if, as is here affirmed, it ceases, 'disappears,' 'is extinguished,' at death, like 'every other physiological function,' what then becomes of the much-vaunted 'law of substance,' half of which is the absolute indestructibility of energy?² Where is there any evidence of quantivalence for the disappearing chemical energy of life and mind?³ On

¹ See p. 84 above.

² Here says Mr. R. B. Arnold truly: 'We have already pointed out that the stream of consciousness observed in introspection should be regarded as the energy aspect of our being, and of the universe inadequately objectified by our own imperfect apprehension. But we must instantly add, to avoid Haeckel's error, that this energy is not merely the energy of the physicist, which is purely mechanical, only because, for his special purposes, he must stereotype one aspect of the universe as a separate series, omitting consideration of cerebral energy.'—*Scientific Fact*, &c. p. 340.

³ Here Haeckel's champion comes to the rescue (p. 113) with an attempted criticism of Sir Oliver Lodge. The latter has said, with perfect scientific truth, that 'energy can transform itself into other forces, remaining constant in quantity, whereas life does not transmute itself into any form of energy, nor does death affect the sum of energy in any way.' Upon this we are told that 'if death has not affected the sum of energy it must have transmuted it.' We might ask why 'must,' beyond the convenience of monism? Or again, whereinto, seeing that no trace of any such transmutation is known to us? Haeckel's own term, 'disappears,' 'is extinguished,' would seem to be clear enough. But most certainly the energies in the dead body differ from

the other hand, if the law of substance still holds good, so that the chemical, i.e. vital, energy is not extinguished, upon what grounds can immortality be pronounced irrational or unscientific?

Meanwhile there remains to-day as clearly as in Butler's time 'the high probability' of which he spoke—'that our living powers will continue after death, unless there be some ground to think that death is their destruction.' And when he adds :

But we cannot argue from the reason of the thing that death is the destruction of living agents, because we know not at all what death is in itself : but only some of its effects, such as the dissolution of flesh, skin, and bones. And these effects do in no wise appear to imply the destruction of a living agent '—

there is no warrant arising from our later and greater knowledge for questioning this—unless it be the bare assertion of Monism that thought is merely a 'function' of brain, and the soul of man 'nothing more than the sum of the movements' of cerebral molecules; which is the very thing that never has been proved and never can be.

those of the living.' Wherein, then, seeing that 'it is impossible to conceive life otherwise than as energy?' In that case, the *only* difference between a living and a dead body is in the *amount* of physical energy. And death means that a certain amount of such energy has 'disappeared,' without any equivalent. With such an event, the 'law of substance' disappears too. Finally—as was mentioned above—we are informed that 'the death of the animal is like the death of the motor-car.' Seeing that the writer so manifestly has motor-cars on the brain, it will be for him, in the name of Monism, to tell us how a motor-car can die, and then, per consequence, also to introduce us to the same car whilst it was yet alive. Meanwhile one must suggest that a philosophy which requires the support of a 'dead motor-car' must be in a sorry plight indeed.

¹ *Analogy*, p. 19 (edn. of Religious Tract Society).

Dr. Joseph Cook was thus warranted in his more modern avowal that—

Unless there is evidence to the contrary, as there is not, we must believe in the persistency of that spiritual force which we call the soul ; and this we must do in the name of the scientific principle of the persistence of force, itself the most vaunted of all modern points in science.¹

The hugeness of the assumption, indeed, upon which this plausible emphasizing of death's effect really rests, was expressed both with clearness and authority by the authors of *The Unseen Universe*, when they wrote :—

Thus we do not believe that we can really ascertain what death is. To those, therefore, who assert that there is no spiritual unseen world, and that death is an end of the existence of the individual, we reply by simply denying their first statement, and, in consequence of this denial, insisting that none of us know anything whatever about death. Indeed, it is at once apparent that a scientific denial of the possibility of life after death, must be linked with at least something like a scientific proof of the non-existence of a spiritual unseen world. But if, on the other hand, we feel constrained to believe in a spiritual universe, then, though it does not follow that life is certain after death, inasmuch as we do not know whether any provision has been made in this unseen world for our reception, yet it does follow that we cannot deny the possibility of a future life. For to do so would imply on our part such an exhaustive knowledge of the unseen as would justify us in believing that no arrangement had been made in it for our transference thither. Now our almost absolute ignorance with regard to the unseen, must prevent us from coming to any such conclusion.²

¹ Boston Monday Lectures, *Biology*, p. 161 (Hodder & Stoughton's edn.). The reader will do well, undeterred by the gibes of some Monistic writers, to study the whole lecture.

² pp. 5, 6 (9th edn.).

This statement is as modern as it is modest. If it errs at all, it is in under-estimating the possibilities of our knowledge of the unseen. It is, however, most necessary, in the interests of truth, to make firm stand against the immodesty of Monism's assumptions. When, for instance, a Christian advocate writes thus :

The first fact for us to realize is that the death of the body is no evidence for the annihilation of the soul. Two considerations make this clear. (i) In the living man, the soul is not a mere development of the body, the product of high organization¹—

full well we know that Haeckel would meet such a statement with a sweeping and contemptuous negative. But what is the worth of it, seeing that neither he nor any man of science can deny that 'life is not the result of organization, but organization the result of life' ?²

From which, momentous conclusions may well be drawn. Moreover, to continue the above citation,

(ii) While my friend was alive I never saw his soul. I only felt that the soul was there, using his body as a means of communicating with me. When the body dies this means of communicating ceases, but that tells me nothing about the soul. I speak to a friend through the telephone, recognize the sound of his voice, know that he is speaking to me. All sound ceases ; I speak, but get no answer. This does not prove that anything had happened to my friend, only that the connexion

¹ *Know Thyself*, by H. S. Solly, M.A., pp. 92, 93 (Philip Green).

² We have seen above how Haeckel himself avows (*Wonders*, p. 133) 'These microscopic structures are not the efficient causes of the life-process, but products of it.' It is interesting to mark how here Professor Haeckel corroborates the definition of life 'ventured' by Dr. Joseph Cook, in his Monday Lectures (*Biology*, p. 115)—'Life is the power which directs the movements of bioplasm.'

between us is cut off. I am free to accept any other evidence for his continued existence. We are equally free to accept evidence for the immortality of the soul.

Upon the only conceivable reply to this suggestion, the desperate assertion that, as regards the human brain 'the instrument is automatic,' we have sufficiently commented. It remains but to add that so far as the latest attempt of scientific psychology is concerned—in its psycho-physical parallelism between molecular cerebral motion and thought—there is nothing whatever to invalidate the force of what Dr. Joseph Cook said at Boston twenty years ago:—

Show me by physiological argument that the soul is an agent external to the nervous mechanism, and you have proved that the relation of the soul to the body is that of a harper to a harp, or a rower to a boat: and in showing that you have removed, I affirm, not only a great, but the greatest obstacle to the belief in immortality.¹

So far, therefore, as our knowledge of what death involves can take us, there is no sufficient warrant for the dogmatic assertion of Haeckel's 'thanatism.' It is not one whit less hypothetical than the 'athana-tism' which he so scornfully derides.

V. We have next to ask whether his insistence upon the details of the process of human reproduction is of any more avail for his purpose. The position may be stated in his own words:

At the moment of conception or impregnation, not only the protoplasm and the nuclei of the two sexual cells coalesce, but also their cell-souls. By these empirical facts of conception, moreover, the further fact of extreme importance is established,

¹ Boston Monday Lectures, *Biology*, p. 161 (Hodder & Stoughton's edn.).

that every man, like every other animal, has a beginning of existence: the complete copulation of the two sexual nuclei marks the precise moment when not only the body, but also the soul of the new stem-cell makes its appearance. This fact suffices of itself to destroy the myth of the immortality of the soul.

With the formation of this cytula, hence in the process of conception itself, the existence of the personality, the independent individual, commences. This ontogenic fact is supremely important, for the most far-reaching conclusions may be drawn from it. Further, we come to the momentous conclusion that the new personality which arises thus can lay no claim to 'immortality.'¹

Now, here it is necessary plainly to understand what we mean by the 'claim' of the 'personality' to 'immortality.' In whatever way the personality may arise, its possession of what Butler calls 'living powers' becomes a fact, and 'thanatism' is bound to face the question as to what becomes of these living powers. But in so doing, the distinction which Butler makes in his note must still be emphasized.

Destruction of living powers is a manner of expression unavoidably ambiguous, and may signify either the destruction of a living being, so as that the same living being shall be incapable of ever perceiving or acting again at all; or the destruction of those means and instruments by which it is capable of its *present* life, of its present state of perception and of action.

Before, therefore, the belief in human immortality can be swept away as a mere vicious superstition,²

¹ *Riddle*, pp. 49, 23.

² 'The desire for immortality is a vice, because it habituates the human mind to fixedly believe important ideas without proper and sufficient evidence, and it is frequently associated with irrational dissatisfaction with this life.'—*Scientific Basis of Morality*, Dr. W. Gore, p. 311. One would have thought that for 'cultured minds' Butler had for ever disposed of such flimsy antagonism as this.

on the ground that we know how personality arose, it has to be shown that this knowledge clearly demonstrates the annihilation of the whole being, either in a death which confessedly destroys 'those means and instruments by which' human personality 'is capable of this present life,' or in something beyond death which prevents such personality from ever acting again at all. But if, as just shown, our scientific ignorance prevents our affirming the former, how much less can we dogmatize concerning the latter?

Our modern knowledge of the process of conception adds nothing at all to our knowledge of death, for the simple reason that we do not know what takes place in such process, whatever hints or assumptions are made to the contrary.¹ If, indeed, out of the coalescence of two such infinitesimals—both physically and mentally considered—as what Haeckel terms 'cell-souls,' there may result, in ways absolutely beyond our ken, all the contents and activities of

¹ Upon the assumption of Haeckel that the more intricate details of human conception specially oppose the doctrine of immortality, Professor Adickes well says: 'Welch ein Durcheinander von Thatsachen und Theorien! Und welch einsitige Deutung der ersteren! Wie kann man auch nur daran denken, den Anfang eines Seelenlebens direkt sinnlich zu beobachten! Nur Bewegungen sieht man und Lageveränderungen: das muss einem um so klarer Bewusstsein kommen, je weiter man gerade in die "feineren Vorgänge bei der Befruchtung" eindringt. Am wenigsten bei so rätselhaften Vorgängen, wie Vereinigung zweier Zellen zu einer. Jede Zelle ist ja ein komplizierter Organismus, und schon die räumlichen Bewegungserscheinungen, in denen jene Vereinigung besteht, sind in fast völliges Dunkel gehüllt. Wie viel mehr gilt das den Innensuständen geistiger Art, die der Vertreter des psycho-physischen Parallelismus natürlich auch hier annehmen muss.'—*Kant contra Haeckel*, p. 92.

an average human soul—to say nothing of talent and genius—there would seem to be abundant reason for abstaining from dogmatism in regard to what may take place when such an organism is apparently disintegrated. Here, in spite of the scorn of Haeckel's champion, is room for the consideration suggested by Mr. Newman Smyth :

The physiological connexion of men from generation to generation is a merest thread of protoplasmic substance. It is almost too small for the microscope to render it perceptible. One thing which biology makes plain—and the plainness of it may awaken awe—is this fact that mind does not need for its birth, and its coming to its inheritance, a whole body, a complete brain, a fully formed organ of sense, or so much as a single nerve : a few microscopic threads of chromatin matter in the egg are enough. To dimensions so infinitesimal is the dependence of personal individuality upon the physical world reduced in its origin. The little that we know of birth into the world does not warrant us in saying that death out of it cannot be a new birth into other and larger relations with the universe. And what we do know of the slightness of the connexion of personal life with matter at its birth, does justify us scientifically in affirming that the dissolution of a body is not necessarily the destruction of all relation of the individual to the outward universe. The bridge for the open way of the soul, both at birth and death, may be laid from the foundation of the world, although it may not in either case be visible to our senses.¹

¹ *Through Science to Faith*, p. 263, 264. I have quoted Mr. Smyth fully, so that the reader may appreciate Mr. McCabe's comment. We saw above the inaccuracy of his reference to Dr. W. N. Clarke, in this connexion ; now note his summary of Mr. Smyth : ' Hence if at both ends of life the bond that links mind and body can wear so thin, it is conceivable that it may be dispensed with altogether. Now, this is a most perverse piece of reasoning.' The perversity is rather in making a writer say what he does not say. Nor is it helped by the further comment : ' At conception, and long after conception, we have no right to say that the mind is there at all.' What then becomes of Haeckel's strong assertion (*Riddle*, p. 78) that ' the two fundamental

We need not here make reference to theories of pre-existence or 'reincarnation,' because Haeckel lays no stress on these.¹ His definite and confident suggestion appears to be that if thus the human personality has a beginning, it must therefore have an end. There is, however, no logical necessity for this conclusion, save upon the assumption that there is no God of whom personality can be predicated. Certainly such an assumption cannot be permitted, either in the name of science or philosophy. Reiterated railing against the 'futility of the theistic idea,' and the foolish 'myth' of immortality, proves nothing beyond the animus of the writer. It is well within the bounds of possibility that God, as defined by

forms of substance are endowed with sensation and will,' and that 'every shade of inclination, from complete indifference to the fiercest passion, is exemplified in the chemical relation of the various elements towards each other, just as we find in the psychology of man, and especially in the life of the sexes?' If all this may be in the ultimate atoms, how much more in the highly organized cell, composed of albumin molecules every one of which contains 'probably much more than a thousand atoms' (*Wonders*, p. 132). Or if there be no 'mind at all at conception,' so that 'it appears and grows with the brain, that is all the evidence says'—then the evidence says that the mind (the degree of it is irrelevant) arises without cause from mere matter; which is philosophically unthinkable. There is thus only the usual Monistic dogmatism left as the basis for the assertion that 'the facts point to a diametrically opposed conclusion to that of Mr. Smyth.' But to track out all these 'answers' which are no answers, would require a volume to itself. *Ex uno disce omnes.*

¹ The student would be interested in Mr. Arnold's reasons for saying: 'It will be noticed that human immortality, on our present principles, does not involve also pre-existence, as has always logically been the case with any such view since Plato's discussion of the subject. This difference is directly due to our acceptance of an evolutionary view as applicable even to the very meaning of existence, save that of the Absolute.—*Scientific Fact and Metaphysical Reality*, p. 347.

Christian theism, should, through the laws of human reproduction, bring into being new personalities, and that these personalities should last as long as He wills. It may be beyond us to assert a natural immortality, or a literal eternity of being, for any creature; but it is quite open to us to avow that, assuming the will of God as the ultimate cause of human being, only the same cause can be adequate for the annihilation of that being. Decision, in such a case, passes from science or philosophy to theology.

But it is not necessary here to consider it at all. Haeckel's 'thanatism' is sufficiently disposed of when we show that there is nothing in our knowledge of sexual conception, to warrant the dogmatic assertion that death must absolutely and for ever destroy the result of such conception. Every assertion to that effect is necessarily invalid, because of the unwarranted assumptions upon which it is obliged to depend. Until the 'souls' of the atoms are proved realities, instead of mere hypotheses; until the 'carbon theory,' or some other, is so demonstrated that we can truly say that we know what life is, and per consequence what is death; until it is placed beyond doubt that human personality includes no more than a 'function of brain' which in the last resort is pure mechanism—no knowledge of human life's beginnings can be construed into a rationale of its ending. For, as Professor Adickes points out, our knowledge is not knowledge in such a sense as to guide us herein. What we can see of the

process is comparatively unimportant. The essential secret we do not see, either with the eye of the body or the mind. Witnessing what we do as to the after developments of human consciousness and mental activity from the coalescence of two such infinitesimals, the fact of conception, which seems to Haeckel's eyes so simple, is really an unfathomed 'wonder,' of which we really know no more than a child glancing over the surface of the ocean knows of the life in its lowest depths. On such ignorance 'thanatism' may build, indeed, but neither rationally nor securely.

VI. Again, much stress is laid upon another assumption. The community of nature between man and animals, even to the obliteration of all difference save that of degree, is a theme of which both Haeckel and his advocate are never tired. We make here no pretence to discuss it fully. Our one query is whether man and beast are so essentially and entirely the same that either 'thanatism' or 'athanatism,' predicated of the one, necessarily applies with equal force to the other. Haeckel, of course, leaves us in no doubt as to his opinion. One statement in his own words will serve for many. After referring to Romanes's work on *Mental Evolution in Animals*, as a 'convincing proof that the psychological barrier between man and the brute has been overcome,' he concludes that—

Man has no single mental faculty which is his exclusive prerogative. His whole psychic life differs from that of the

nearest related mammals only in degree and not in kind : quantitatively, not qualitatively.¹

His apt pupil of course echoes this, though with the addition, on every page, of sneers which make a patient reading of his remarks very difficult.² They find their culmination in the avowal that, as regards the relation of human 'free-will' to morality—

Such freedom as we now find we have—if we may still use the word—is not different in kind from that which a cat or a dog evinces every day.³

Whilst as to immortality, the usual modesty appears in the assertion—

We have seen that modern science completely discredits the

¹ *Riddle*, p. 38, 186, 205; *Wonders*, p. 20, &c.

² e.g. 'Virchow's pitiful and transparently prejudiced resistance' (49); 'thinkers like Drs. Wallace and Mivart affected to see a gulf' (50); 'Dr. Iverach raising irrelevant difficulties' (51); Rev. Rhondda Williams makes 'a medley of small points' (52); and 'a storm-cloud of rhetoric' (53); his 'procedure would be called clever from the intellectual point of view, but by a different name from the moral standpoint' (54); 'Mr. Ballard's curious and wilful misconstruction' (54); 'petty quibble' and 'pedantic effort' (55); 'the verbal quibbles of Mr. Williams,' and 'the farrago of rhetoric opposed to us' (56); the 'childish objection' of Professor Case (58); the 'desperate predicament' of Professor Herbert (59); 'one may observe in passing that all this kind of reasoning is futile and insincere' (60); &c., &c. This, we note once more, is the 'dignity' in which 'the frail spirit of truth must be sought with patient and calm investigation'!

³ p. 60. Inasmuch as this writer especially recommends us to read Professor Stout's *Manual of Psychology*, it may be well here to recall its representation of the case in point (v. p. 158 above). Says Professor Stout: 'Acts are free in so far as they flow from the character of the agent: for character is just the constitution of the self as a whole. Animals can scarcely be said to have a character, because their actions flow from disconnected impulse' (p. 633).

'supposed separateness of man from the brutes,' to use the words of Le Conte.¹ The thinking force in him is the same force that reveals itself in the industry and ingenuity of the ant, or the affection of the dog. Why shall it survive the corruption of the brain in this case, yet in their case die away as surely as the light dies when the sun sets? It would seem that it is not so much a question of examining Haeckel's disproofs as of asking where we are to look for the ground of this stupendous claim.

Now, the meekness of the concluding query here is especially interesting, in face of all that has been written thereon, say from the time of Kant—not to mention Plato—to Dr. Martineau. No doubt, in the estimate of this writer, it is all 'a farrago of useless rhetoric and verbal quibbles'; but it does not necessarily follow that we must accept such a superficial estimate. Whilst as to the preceding sentences, we may remark that it has yet to be shown that 'thinking' is a 'force' at all. If it be, what becomes of it, whether in an ant or man or dog, upon the 'corruption of the brain,' assuming Haeckel's favourite 'law of substance'? Assuredly, on his own lines, such light does not 'die away when the sun sets.'

Waiving that now, we have to consider the particular inference suggested by Haeckel: 'If we ascribe personal immortality to man, we are bound to grant it also to the higher animals.'²

1. Now, so far as the thinkableness of immortality is concerned, we might be well content to ask, What if we are? If the 'higher' animals are only high enough

¹ p. 62. How far these few words, torn out of all connexion, represent the actual judgement of Le Conte, the reader will see in a moment.

² *Riddle*, p. 206.

to share the 'personal' conception of and desire for immortality which characterize the highest animal, there is no more objection on the part of religion than of science to their continuance in being. Indeed, one of our ablest psychologists, whom Monists are glad to quote when they can, goes so far as to say :

For my own part, then, so far as logic goes, I am willing that every leaf that ever grew in this world's forests and rustled in the breeze should become immortal. It is purely a question of fact: are the leaves so or not? . . . If we feel a significance in our own life which would lead us spontaneously to claim its perpetuity, let us be at least tolerant of like claims made by other lives, however numerous, however unideal they may seem to us to be. Let us at any rate not decide adversely on our own claim, whose grounds we feel directly, because we cannot decide favourably on the alien claims, whose grounds we cannot feel at all. That would indeed be letting blindness lay down the law to sight.¹

In so far as it is true that 'each of these grotesque or even repulsive aliens is animated by an inner joy of living, as hot or hotter than that which you feel beating in your private breast,' there is nothing repulsive to the Christian mind in the thought of their continued life. The universe, as Professor James says, is large enough. But, as he also hints, it is a question of fact. Are they thus 'animated'? Do they 'realize themselves with the acutest internality, with the most violent thrills of life'? It is a question which, by direct observation, we can never answer. But the more carefully and patiently the content of the animal consciousness is studied *ab extra*, even as in such a summary as the 'second

¹ Professor W. James, Ingersoll Lecture, *Human Immortality*, pp. 84, 86.

and more important volume of Romanes,' the less are we compelled to regard their 'claim' to immortality as comparable with that of man.¹

2. The apparent demand that a sharp line of psychical difference should be drawn between man and brute, as constituting the actual capacity for immortality, is alike unwarranted, unnecessary, and unscientific. As to ourselves, beyond the fact that we are conscious of such unmeasured capacity, we know nothing as to its rationale, and are quite in the dark as to its scope. Whilst as to other creatures, even the highest :

When we attempt, on the basis of inference drawn from outward actions, to discriminate the range of psychical faculty common to brute and man, from that which is peculiar to man, it becomes obvious that clear delimitation is difficult or impossible.²

Mr. Fiske, from his pronounced standpoint, also says plainly :

How could immortal man have been produced through

¹ When Haeckel writes, 'Any unprejudiced observer who will study the conscious and intelligent psychic activity of a fine dog for a year, and follow attentively the physiological processes of its thought, judgement, and reason, will have to admit that it has *just as valid* a claim to immortality as man himself'—it is absolutely nothing more than the dogmatic assertion of private opinion. He has no right whatever to assume that those who differ from him are dull or prejudiced observers. For my own part, I have most carefully watched everything in connexion with the life of such a 'fine dog' in my own home for many years, and am not ashamed to confess to tears at his death. But the difference in all respects between the 'soul' of my dog and the soul of my child—to say nothing of the years beyond childhood—became more and more inexpressibly impressive. That which grows on one more and more, from observation, is the limitation of the animal as against the non-limitation of the human.

² Dr. Rice, *Christian Faith in an Age of Science*, p. 271,

heredity from an ephemeral brute? The difficulty is one of the sort which we are apt to encounter when we try to designate absolute beginnings and to mark off hard and fast lines, for in nature there are no such lines. Voltaire asked the same kind of question more than a hundred years before Darwinism had been heard of. When does the immortal soul of the individual come into existence? The most proper answer is a frank confession of ignorance. Whether it be in the individual or in the race, we cannot tell just where the soul comes in.¹

But we do at least know, in the added words of Dr. Rice, that—

However impossible it may be to formulate the psychological differences between brute and man, there is a chasm of measureless breadth between the psychical life of the brute, and the language and literature, the science and philosophy, the history and politics, the morality and religion of man.²

3. Furthermore, in face of the ceaseless reiteration that the differences between man and animal are always and only differences in degree, and not in kind,³ it may fairly and frankly be avowed that differences in degree may, in passing critical points, become differences in kind. Mr. McCabe's sneer⁴ does not in the least diminish the validity of Mr. Smyth's statement that there are—

Critical points which occur in the processes of nature at which, without any breach of continuity, but with very slight modification in physical conditions, a vast change is brought

¹ *Life Everlasting*, pp. 83, 84.

² p. 276.

³ *Wonders*, p. 20, &c.

⁴ 'The supplementary consideration which Mr. Smyth submits is still feeble.' Such sentences suggest that the writer really considers himself humanity's final arbitrator as to the true and strong, in all matters of intellect and morals,

about, and an entirely new series of actions in nature is effected. Evolution is continuous as energy, but it is not uniform in its effects.¹

Sufficient illustration of this principle—though there are many more—may be found in water, which, whilst its temperature gradually increases, comes at last to a period when a most definite and marked change of condition takes place—the properties of steam being quite distinct from those of water. Or if decrease instead of increase of temperature be contemplated, the passing of water into ice just at a certain point (not that of greatest density) which we call *zero*, is an equally undeniable production of a difference in kind out of difference in degree. If such transitions happen in the inorganic or physical realm, what may come to pass in the organic and psychical?

The Monist ought, indeed, to be the last in the world to fling scorn at such a suggestion, seeing that his whole system hangs upon it. What else, or what less, is involved in his ceaseless avowal that life has resulted from a certain stage of complexity in matter? Or from his declaration that a certain degree of the unconscious has yielded consciousness? Or that a certain degree of molecular complexity in a material brain 'produces' thought, which, as yet, no one dares to pronounce material? With such precedents it ought to be a light matter for Monism

¹ *Through Science to Faith*, p. 262. I quote this with the more readiness not only because, as he says, 'naturalists are often deeply impressed with the fact,' but because I have elsewhere formulated the idea, wholly without any knowledge of or reference to his suggestion. I esteem it an honour to share his 'feebleness.'

to predicate the immortal from the mortal. At all events, just as any Monistic principle of thorough-going continuity does not exclude God, even when life and mind are accepted as but stages in evolution, so neither does it by any means 'rule out' immortality, when the critical period for its appearance is at hand. It is entirely as conceivable that at a certain stage of psychic evolution the mortal—that is, the being whose totality is destroyed by death—should pass into the immortal—that is, the being part of whose totality is untouched by death, as it is that at previous critical stages life should arise from the non-living, or consciousness from the unconscious. Mr. Fiske is well supported by facts when he says :

The maxim that nature makes no leaps is far from true. Nature's habit is to make prodigious leaps, but only after long preparation. Such analogies may help us realize the possibility that steadily developing ephemeral life may reach a critical point where it suddenly puts on immortality. In the course of evolution there is no more philosophical difficulty in man's acquiring immortal life, than in his acquiring the erect posture and articulate speech.¹

And seeing that Professor Le Conte has been mentioned above in ambiguous fashion, it may be worth while to let him state plainly his position as at once a theist, a monist, and an evolutionist :

I believe that the spirit of man was developed out of the *anima* or conscious principle of animals, and that this again was developed out of the lower forms of life-force, and this in its turn out of the chemical and physical forces of nature : and that at a certain stage in this gradual development, viz. with man, it *acquired* the property of immortality precisely as it now, in the individual

¹ *Life Everlasting*, pp. 84, 85.

history of each man at a certain stage, acquires the capacity of abstract thought. This is, in brief, the view which I wish to enforce, a view for which I have earnestly contended for twenty years.¹

Professor Le Conte does not claim infallibility for such a view, but he is not alone² in it, and at the least, as Dr. Rice says concerning the work of Professors Tait and Stewart, 'a suggestion is offered which shows that the idea of immortality on a monistic basis is not irrational.'³

4. But nothing must make us oblivious of the vast and indeed immeasurable gulf which does divide the average man, as now developed, from the highest of the lower animals, whether ape, or dog, or horse, or elephant. Whatever be the origin of human nature, this fact remains incontrovertible. Haeckel himself acknowledges that 'reason is man's highest gift, the only prerogative that essentially distinguishes him from the lower animals.'⁴ He also intimates that through comparative psychology we learn to appreciate 'the long strides by which the human soul has advanced beyond the *psyche* of the anthropoid ape.'⁵ So marked, confessedly, is this advance, that there is little relevance, when considering the 'claims' of man to the 'stupendous privilege' of immortality, in laying such overweening stress upon his ancestry. When Mr. McCabe says that

¹ *Evolution, &c.*, p. 295.

² Thus Professor Lotze—mentioned by Dr. Rice (*Christian Faith, &c.*, p. 269)—says, 'There is nothing to prevent us from looking at the formation of the soul as an extended process in time, a process which in the Absolute gradually gives a further form to its creation.'

³ p. 281.

⁴ *Riddle*, p. 7.

⁵ *Riddle*, p. 53.

'if belief in immortality is to be anything more than a despairing trust, it must appeal to the presence in man of some unique power and promise,'¹ we are most willing to take him at his word. The philosophy of the Christian case could not be better formulated. It is precisely this 'presence in man of unique power and promise' to which the theist, whether monist or dualist, makes his appeal. Here at all events we are upon firm ground. So firm, indeed, and so extended, that we are by no means dependent upon any one phase or representation of it.

Thus Professor Henslow lays greatest stress upon the capacity for abstract thought in man, as compared with animals, and draws here :

The sharp line of distinction between him and them upon which his whole moral nature hinges : a moral nature which no other being can acquire.—Animals having no power of abstract reasoning cannot abuse natural laws. They cannot be moral or immoral, but remain non-moral, living automata, void of all volition.²

Whether this estimate does full justice to the powers of some animals, may be left an open question. In the main it expresses a rule concerning which one may fairly say that exceptions only confirm it. Again, Professor Shaler suggests that—

If we should seek some one mark which, in the intellectual advance from the brutes to man, might denote the passage to the human side, we might well find it in the moment when it dawned

¹ *Haeckel's Critics Answered*, p. 61.

² *Present-day Rationalism*, pp. 213, 214.

upon the nascent man that death was a mystery which he had in his turn to meet.¹

This at least is certain, that by no means whatever can the apprehension of approaching death, as such, be imparted to any other creature than man.

Mr. Fiske sums up his strong putting of the case thus :

It is not too much to say that the difference between man and all other living creatures, in respect of teachableness, progressiveness, and individuality of character, surpasses all other differences of kind that are known to exist in the universe.²

This may be easy to deny, but it is impossible to disprove. Such an estimate is well confirmed by Dr. W. N. Clarke, whose condensed summary³ is worthy of the best consideration of every 'unprejudiced observer.' It comes, in a word, to this :

Although we may not be able clearly to trace the line of distinction between man and other animals, the distinction is unquestionable, and resides in the qualities of the human spirit. We may grant that, like the principle of life, the principle of mind, expressed in man, finds genuine though partial expression in the animal world below him. Yet it is true that man is unique in spite of his community with the inferior world, and stands on a plane of essential separateness, by virtue of qualities that are all his own.

It is especially interesting and suggestive when two thinkers, far removed alike from conventional theology and from each other, express the same opinion on such a theme. Thus Mr. R. B. Arnold writes truly enough :

We have no reason for supposing that the animal is capable

¹ Fiske's *Life Everlasting*, p. 30.

² *Man's Destiny*, p. 57. To appreciate the writer's position the whole of this little volume should be studied.

³ See *An Outline of Christian Theology*, pp. 188-92.

of that introspection which simultaneously creates in us and reveals to us mind, taken as a new type of existence.¹

Whilst Professor Le Conte's words may well close this brief but sufficient reference to the matter:

We may imagine man to have emerged ever so gradually from animals: in this gradual development the moment he became conscious of self, the moment he turned his thoughts inward in wonder upon himself and on the mystery of his existence as separate from nature, that moment marks the birth of humanity out of animality. All else characteristic of man followed as a necessary consequence. As animal consciousness is related to human self-consciousness, so exactly is animal will to human free-will, animal intelligence to human reason, animal sign language to rational grammatical speech of man, constructive art of animals to true rational progressive art of man. In every one of these the resemblance is great, but the difference is immense, and not only in degree, but also in kind.²

5. Furthermore, when earnest attention is concentrated, as it ought to be, not alone on the process but also and equally on the result of evolution, up to the stage of manhood, it becomes vividly manifest that anything short of human immortality would 'put us to permanent intellectual confusion.' Well, therefore, does Dr. W. N. Clarke say herein:

The question is not whether physical science has a right in the world, but whether physical science has a right to the world. Can we learn below man all that we need for understanding man and for looking above him? Is it true, or is it not true, that the world of personal life is the world in view of which existence must receive its best interpretation? Is it, or is it not the fact, that only when man is considered can the riddle of existence begin to be solved? Is the animal world or the human world our Rosetta-stone for translation of the language

¹ *Scientific Fact and Metaphysical Reality*, p. 327.

² *Evolution, &c.*, pp. 302, 303.

of the universe? When the cosmic system has attained to the production of personal beings, then personal facts and relations are the elements supreme, and the elements indispensable for the understanding of the system.¹

Even if we waive the theistic conception of human origin and destiny, yet it remains true, as Principal Caird put it, that—

Man's intellectual and moral endowments are on a scale immeasurably larger than the needs of this brief life demand, or than is required for any attainments in knowledge and goodness which even the noblest and best of men reach in their earthly existence: and therefore we can only account for the disproportion by the conception of a future life in which these endowments shall find adequate scope and employment.²

The evolution of human nature thus far is its own self-contradiction, whatever becomes of Monism or theism, unless it proceed farther than this life appears to afford scope for doing. We cannot but ask, with Mr. Fiske:

Are Man's highest spiritual qualities, into the production of which all this creative energy has gone, to disappear with the rest? On such a view the riddle of the universe becomes a riddle without a meaning. The more thoroughly we comprehend that process of evolution by which things have come to be what they are, the more we are likely to feel that to deny the everlasting permanence of the spiritual element in man, is to rob the whole process of its meaning.³

But inasmuch as we are not bound, at Haeckel's word of command, to dismiss all theistic thought, we may appreciate Dr. Martineau's suggestion that if it

¹ *Huxley and Phillips Brooks*, pp. 49-51.

² *Fundamental Ideas of Christianity*, ii. p. 263.

³ *Man's Destiny*, pp. 114, 115.

were 'the will of the Creator that men should henceforth live in this world for ten or a hundred times as long as they do at present,' no 'new souls would be required' for carrying out such an ideal'—'it would only be the bodies which would have to be altered. The soul is already made for eternity.'¹

6. It is at all events a poor philosophy that has to establish itself by making the least of the best part of human nature, and constructing its dungeon of despair² out of contempt for man's loftiest instincts and treatment of his noblest faculties as things of nought. If man be 'of no more value to the universe at large than the fly of a summer's day, or the smallest bacillus,' such a life would truly not be worth preserving. But the 'anthropistic illusion' which holds that men are 'made for better things' in the image of God, is as much truer to fact as nobler in conception than the misanthropic delusion which regards him merely as 'the transitory phase of an eternal substance,' concerning which 'we do not even know that it exists.' Carlyle certainly was not prejudiced on behalf of orthodoxy when he declared that—

The true Shecinah is man. Yes, it is even so: this is no vain phrase: it is veritably so. The essence of our being is a breath of Heaven. This body, this life of ours, these faculties, are they not all a vesture for that Unnamed? We touch Heaven when we lay our hand on a human body. We are the miracle of miracles. This is scientific fact, God's creation.

¹ See H. S. Solly, *Know Thyself*, p. 93.

² 'From end to end of the universe comes only the whisper of death.'—*H. C. A.*, p. 61. Verily a ghastly assumption of omniscience.

One can easily imagine the Haeckelian scorn at such a statement. But Carlyle can hold his own. Herein at all events he has all that is noblest in humanity for his warrant. It is surely plain beyond dispute, that the degree and kind of 'soul' evinced in these very works of Haeckel, are utterly inconceivable on the part of any other creature known to us. May we not well believe that there is more of reason than of 'superstition' in the hope that such powers will not be 'cast as rubbish to the void,' when the organism through which they now operate is—so far as we can see—disintegrated?

VII. But it is necessary to reiterate our protest against the assumed *omniscience* of the scorn which Monism pours upon the hope of immortality. Its most accentuated expression comes only too naturally from Haeckel's champion. After glancing over part of the surface of the reasons for such faith, suggested with sincere deliberateness by men, to say the least, quite his equals in intelligence, this is the summary:

Such are the feeble defences which are to-day set up by the apologists who have scientific attainments in the Christian body. On the strength of these ethereal speculations we are asked to resist the weight of the scientific evidence as to the relation of body and soul, and to admit for man a privilege that is unknown from end to end of the universe. We are asked to believe that, with the aid of a fantastic and desperate philosophy such as this, we can overleap science's unbroken and impregnable barrier.¹

Now, however loth one may be to employ language

¹ *Haeckel's Critics Answered*, p. 67.

which may even seem to be lacking in courtesy, in the interest of those who read such writing and know no better, the plain truth must be told. With all deliberateness it must be pointed out that this tall-talk is but question-begging rhodomontade. It cannot in truth be pronounced other than the mere conceit of Monistic assumption. For, to say nothing of its flat contradiction of Haeckel himself,¹ or the 'calm dignity' of the adjectives employed, the 'un-prejudiced observer' is requested specially to mark the modesty involved in the oft-occurring assertion 'from end to end of the universe.'² The calmness of the assumption becomes positively comic; although one would think that the philosophy which took for granted that man was perfectly acquainted with the whole contents of the 'universe,' would be the last to imagine that such a marvellous creature could be destroyed by death.

But what is the rational worth of all such assuming? Even Haeckel is obliged to own that, in regard to the 'science of ideas'—which seems at least to suggest that the wonderful mental powers of man may find scope in an unseen universe—'the most eminent philosophers hold entirely antagonistic views on its fundamental notions.'³ But his champion

¹ Seeing that instead of regarding immortality as a 'privilege' he declares, that it would only be a 'fearful menace' (*Riddle*, p. 74).

² That it is exactly and not 'figuratively' employed, we may learn from such other sentences as that just quoted on p. 370. If it be only intended as a meaningless rhetorical flourish, modesty is saved, but Monism lost.

³ *Riddle*, p. 38.

dismisses all these 'eminent philosophers' with promptitude and scorn. So that when Mr. Smyth ventures to suggest that—

Life would not be carried out to completion on one of its main lines, it would stop short and be turned back in one of its progressive and dominant principles, if individuality should be gained only to be lost, if the person should miserably perish, and only the species survive, only the life of humanity continue. In man the individual has become paramount. His personality stands out against the sky as nature's supreme fact. Personal immortality is now and henceforth nature's conceivable best¹—

it is incontinently spurned as a 'fantastic and desperate philosophy.' His opponent has ransacked 'the universe from end to end,' and found no place for such individuality. Therefore, there can be none. Well, such a conceit may be suitable foundation for 'our monistic system,' as Haeckel puts it, but philosophically it is fit for nothing else. Ordinary thinkers will rather appreciate the analogy suggested by Mr. Arnold: 'A being small enough to swim up the blood-vessels of our brains could not have the faintest conception that the atomic activities around him, when totalized, are mind.'² Whence, if he were a monist of the type we are considering, he would return to his friends and with all possible vehemence assure them that mind was a mere superstition, that from personal experience he could affirm that pure mechanism was 'empirically established.' 'From end to end of the universe,' he would be positive, 'comes only the whisper' of moving molecules.

¹ *Through Science to Faith*, p. 265.

² *Scientific Fact*, &c., p. 346.

Such a 'being' would of course have to be very 'small' as compared with the rest of our body. But would the comparative smallness be any representation at all of the infinitesimalness of man, in face of the 'universe'? One might say, with all deliberateness, that the knowledge of a fly settling upon one of the many volumes of *The Encyclopaedia Britannica*, as compared with all the information they contain, would be a fitting figure of the knowledge possessed by man as related to the possible contents of the surrounding universe. Even as to the old, old problem—nearest and yet least soluble of all problems—the nature of our own consciousness, Mr. Arnold speaks with scientific accuracy when he says:

Mind is not rightly described as a form of energy in the physicist's sense, because we have reason to believe that physical energy itself, equally with mind in introspection, is an imperfectly apprehended manifestation of an activity which transcends both mind and energy, but of which mind, being totalized on a larger or more complex scale, is more nearly representative than energy. All evidence tends to show that the organism is one. Yet we have the clear distinction of body and mind, giving rise to different sciences, physiology and psychology. The solution seems to lie in the inevitable inadequacy due to our evolutionary and limited point of view, for which certain aspects of the universe must become apparent before others, and hence all the ground of our apprehension is prematurely occupied.¹

Here we too may make appeal to Mr. Mallock, whom Mr. McCabe so often quotes for his own purpose:

The cosmic world—the world of things which we touch and taste and handle—is, as we have seen, in its totality, absolutely

¹ *Scientific Fact and Metaphysical Reality*, p. 340.

beyond the grasp of thought. Within a four-mile radius of an intellectual Charing Cross we can grasp and reason clearly about the various facts which it presents to us, but outside that radius our powers begin to fail us. We can neither assign to this world a limit, nor can we think of it as really illimitable.¹

The truth of this statement being undeniable, it is rather more than an 'ethereal speculation' to suggest that beyond the 'four-mile intellectual radius' of our faculties, there may be possibilities which should give us pause in sweeping assertions. A quarter of a century ago Professors Tait and Stewart, replying to Professor Clifford, said:

He appears to be unable to conceive the possibility of a spiritual body which shall not die with the natural body. Or rather he conceives that he is in a position to assert, from his knowledge of the universe, that such a thing cannot be. We join issue with him at once, for the depth of our ignorance with regard to the unseen universe forbids us to come to any such conclusion with regard to a possible spiritual body.—We certainly hold that if we are to accept scientific principles, one of the necessary conditions of immortality is a frame surviving death, but we as resolutely maintain that of the nature of this frame we are and must probably remain profoundly ignorant.²

Has anything happened in human life since then, or been discovered in science, to make their position now less tenable? Certainly not. The unquestionable trend is much rather in the direction they indicate. To-day, more than ever before in the world's history, it must be acknowledged that any system of philosophy which assumes as one of its axioms a knowledge of the 'universe from end to

¹ *Religion as a Credible Doctrine*, pp. 281, 282.

² *The Unseen Universe*, Preface, xvi. p. 8.

end,' is sufficiently self-discredited to merit dismissal from further consideration.

VIII. In connexion, however, with the foregoing, it may well be worth while to notice in passing the unmeasured contumely and jaunty assumption of *infallibility*, with which Haeckel dismisses what his advocate acknowledges to be 'the empirical or spiritistic evidence for the persistence of mind, which gains increasing favour to-day.' The latter indeed says, in reference to his omission of it from consideration :

This is not due to any lack of respect for the distinguished scientists who have admitted such evidence, or for the sobriety and judgement of so many about us to-day who receive it. It is due to the utter futility of discussing evidence of this kind. It is of such a nature, resting so largely on delicate moral considerations, that it must in my opinion be left entirely to personal examination in the concrete. But that Haeckel is right in saying that the subject is obscured with much fraud and triviality, is admitted not only by lifelong students like Mr. Podmore, but by many earnest spiritists.¹

Now here one may suggest, in passing, that on these lines almost any other subject may be similarly dismissed. Certainly medicine has been 'obscured' with quackery, and astronomy with astrology, to vast extent. Does not sober thought suggest more care and pains in examination, rather than reckless dismissal?

¹ *Haeckel's Critics Answered*, p. 68. It is no small relief and pleasure for once to meet with a fairly true and moderate statement from this writer, showing a little regard for other opinions than his own. His reference to this particular phase of the subject might well be commended as an example to his master. See *Riddle*, p. 108.

Unfortunately this does not do justice to Haeckel's attitude. Not only is his scornful summary of this vast realm indiscriminate and unlimited, but its dogmatism leaves no room whatever for the 'personal examination' which Mr. McCabe suggests. Mr. Allen Clarke appears to be quite within his rights, therefore, when he protests, from the theosophic standpoint:

I think Haeckel's statement too sweeping and too dogmatic. All spiritistic experiences are not deception. The genuineness of much spiritist phenomena is far more thoroughly proved than the 'nebular hypothesis' or 'chemico-tropism,' or 'sum of cerebral functions,' or any other of Haeckel's scientific assumptions. I myself know of spiritist experiences which are neither deception nor delusion; and there are at least hundreds of other people who can give equally reliable testimony.¹

Let us take but two specimens. Haeckel is pleased to say that—

The regrettable circumstance that physicists and biologists of such distinction have been led astray by spiritism is accounted for partly by their excess of imagination and defect of critical faculty, and partly by the powerful influence of dogmas which religious education imprinted on the brain in early youth. . . . The mediums, generally of the weaker sex, have been found to be either smart swindlers or nervous persons of abnormal irritability. Their supposed gift of telepathy has no more existence than the voices or the groans of spirits.²

Now, this is no more science than it is sense. It is not even common sense for any man to assume, in regard to any series of phenomena, that because he does not like them, or knows little about them, therefore all men who have investigated them, with

¹ *Science and the Soul*, Daisy Series, p. 69.

² *Riddle*, p. 108.

results contrary to his own predilections, are necessarily fools or knaves. And assuredly it is not science to dismiss fact on the ground of preconceived theory. It does not appertain, of course, to our present task to consider the whole vast realm of what are now known as 'occult phenomena.'¹ Our protest is simply against the application to this world of realities of the customary sweeping dogmatism of Monistic 'philosophy,' put forth as evidence against human immortality. In point of fact, there is neither evidence nor significance in such wholesale impertinence. That the attitude displayed cannot truly be otherwise characterized, becomes manifest as soon as ever we turn to genuinely scientific investigation of the matters in question. Even in regard to the phenomena of spiritism, it is neither too soon nor too much to say that the dismissal of all these at a stroke 'as the outcome of a lively imagination, together with a lack of

¹ 'Such phenomena as religious conversions; providential leadings in answer to prayer; instantaneous healings; premonitions; apparitions at the time of death; clairvoyant visions or impressions; and the whole range of mediumistic capacities; to say nothing of still more exceptional and incomprehensible things. If any of these things are facts—and to my own mind some of them are facts.'—Professor W. James, *Human Immortality*, p. 50.

'Premonitions, philosophically considered, seem the most perplexing of all the alleged phenomena. We should not, however, be deterred by mere strangeness. The question is not whether a particular fact would upset our conception of the universe, for that conception is but a sadly childish affair. The real question is to ascertain whether—as I am tempted by my own experience to believe—there are in fact authentic cases of this kind.'—Charles Richet, Professor of Physiology in the Paris Faculty of Medicine, *Journal of the Society for Psychical Research*, March, 1905, p. 41.

critical power and of knowledge of physiology,'¹ is a proceeding compared with which the much-denounced 'bigotry' of theologians is the mildest rationalism. Such statements simply demonstrate that the writer is covering up his utter ignorance of the facts, by vehemence of denial that they exist.²

Most educated persons are aware that during the last quarter of a century a special Society of scientific men has been formed for the thorough-going and impartial investigation of the phenomena in question. Whether the vast amount of investigation which the *Proceedings of the Psychical Research Society* and kindred publications embody is mere matter for ridicule, may perhaps be best answered by the estimate of Professor James of Harvard, a man quite as eminent in his own department as Haeckel is in his. Says this trained psychologist:

According to the newspaper and drawing-room myth, soft-headedness and idiotic credulity are the bond of sympathy in this Society, and general wonder-sickness its dynamic principle. A glance at the membership fails, however, to corroborate this view. The president [in 1891] is Professor Henry Sidgwick, known by his other deeds as the most incorrigibly and exasperatingly critical and sceptical mind in England. The hard-headed Arthur Balfour is one vice-president, and the hard-headed Professor

¹ *Riddle*, p. 109.

² Here, again, one cannot but recognize the truthfulness of Professor Paulsen's estimate: 'Statt der Freude am Sehen, der innigen Hingebung an die Dinge, der Bescheidenheit der Untersuchung und der Mitteilung, die Darwin zu einem so liebenswürdigen Forscher und Lehrer macht, von der auch der jugendliche Haeckel etwas besass, nun nichts als fertiges Dogmatisieren, haftiges Konstruieren, hartes Negieren, heftiges Poltern und Schelten über alle, die andere Wege gehen.'—*Phil. Mitt.* p. 155.

J. P. Langley, secretary of the Smithsonian Institute, is another. Such men as Professor Oliver Lodge, the eminent English physicist, and Professor Richet, the eminent French physiologist, are among the most active contributors to the Society's *Proceedings*; and through the catalogue of membership are sprinkled names honoured throughout the world for their scientific capacity. In fact, were I asked to point to a scientific journal where hard-headedness and never-sleeping suspicion of sources of error might be seen in their full bloom, I think I should have to fall back upon the *Proceedings of the Society for Psychical Research*.¹

Those who wish to appreciate the nature and worth of the scientific work here represented, which Haeckel tosses away from him with such contempt as a mere conglomerate of ignorance and fraud, should study the whole article from which the above extract is taken, or Mr. E. Bennett's *Twenty Years of Psychical Research*.² He will then be able to judge, especially if he is also acquainted with the monumental works of Mr. E. Gurney and Mr. F. W. H. Myers,³ whether the term 'impertinence,' employed above, is too strong. In regard, for instance, to 'telepathy,' we have seen Haeckel's unhesitating dismissal of it as mere deceit or folly. Now, bearing in mind not only what Professor James says, but what many of us know from other sources, of the character of Henry Sidgwick, what, after prolonged,

¹ *The Will to Believe*, p. 303.

² London, R. Brimley Johnson.

³ I refer, of course, to *Phantasms of the Living*, published in 1886, and *Human Personality*, published by Mr. Myers in 1903. Each of these works consists of 1,300 pages (in two volumes) of carefully sifted matter, as utterly scientific in every single respect as anything that has ever been published by Professor Haeckel.

fearless, merciless examination, was his conclusion? It was as follows:

It is for this reason that I feel that a part of my grounds for believing in telepathy, depending as it does, on personal knowledge, cannot be communicated except in a weakened form to the ordinary reader of the printed statements which represent the evidence that has convinced me. Indeed, I feel this so strongly that I have always made it my highest ambition as a psychical researcher to produce evidence which will drive my opponents to doubt either my honesty or my veracity. I think that there are a very small minority who will not doubt them, and that if I can convince them, I have done all that I can do; as regards the majority even of my own acquaintances, I should claim no more than an admission that they were considerably surprised to find me in the trick.¹

In face of such an avowal, from such a man, Haeckel's sneer at 'metaphysical philosophers' as being 'in complete ignorance of the facts' of biology,² is not only altogether unwarranted, but recoils with added force upon himself in regard to the facts of psychology. Seeing, moreover, that he so constantly insists upon regarding psychology as merely a branch of physiology, and does not hesitate to affirm that it was the lack of courage and scientific knowledge³ which led most scientists to agree with Du Bois Reymond rather than with himself,⁴ it will be both interesting and valuable to have the estimate of so eminent a physiologist as Professor Charles Richet, the present President of the Society for

¹ *Proceedings of the S.P.R.*, vol. vi. pp. 1-6.

² *Wonders*, p. 158.

³ *Riddle*, p. 64.

⁴ As to whether 'the neurological problem of consciousness is but a particular aspect of the all-pervading cosmological problem of substance.'

Psychical Research, who thus concludes an elaborate address before the Psychological Institute in Paris a few months ago :

All these phenomena show us that what we call human consciousness, human personality, a phenomenon which at first sight seems quite elementary and cannot involve any contradiction, is much more complicated than we think. To know that we are ourselves and no one else, because we have the consciousness of the vibratory phenomena by which we are surrounded, seems to be as simple as anything can be. But in reality this notion is extremely complex, as complex as the intelligence itself, so that when we speak of personality, of higher consciousness, of lower consciousness, we have really entered upon the most formidable problems of psychology. Therefore we must repeat here the Socratic phrase 'Know thyself.' By knowing ourselves, in fact, we shall know the greatest mystery of the universe which is within our reach.¹

In the facts, therefore, to which such a scientific judgement points, there are abundant reasons for a full and frank estimate of 'the empirical or spiritistic evidence for the persistence of mind which gains increasing favour to-day'—as Mr. McCabe puts it. Whether we are most really warranted in postponing the explanation of these facts to the future discovery of some unknown theory, at present to be simply styled x , as Professor Richet suggests,² or

¹ 'Personality and Changes of Personality,' *Annals of Psychical Science*, May, 1905, p. 296.

² Oui! je crois bien que, dans un temps très prochain, après que de nouveaux faits seront constatés, après que d'habiles expérimentateurs aidés par de puissants médiums, auront mis en lumière des phénomènes qui sont encore ténébreux, nous serons amenés à modifier si profondément toutes nos conceptions sur la métapsychique que nous aurons d'autres hypothèses à formuler que celle des anges, des esprits, ou des effluves humains. Cette théorie x , inconnue, qui est inattaquable puisqu'on, ne la formule pas, a toute chance d'être vraie, aussi vraie

whether we ought in due deference to such prolonged and patient and impartial investigation as Mr. Myers's volumes exhibit, to accept his conclusions, must be left, as the Monistic advocate says, 'entirely to personal examination' and conviction. When, however, such an investigator, working under such conditions, comes to the following conclusions, one may at least submit that the time for sneers at ignorance and folly is past :

What I think I know, therefore, I am bound to tell. . . . As a matter of fact—or if you prefer the phrase, in my own personal opinion—our research has led us to results of quite a different type. They have not been negative only, but largely positive. We have shown that, amid much deception and self-deception, fraud and illusion, veritable manifestations do reach us from beyond the grave.¹

At least even Professor Haeckel ought to agree with the avowal that—

Ever more clearly must our age of science realize that any relation between a material and a spiritual world cannot be an ethical or emotional relation alone : that it must needs be a great structural fact of the universe, involving laws at least as persistent, as identical from age to age, as our known laws of energy or motion.²

It is, therefore, of all the greater significance that on such lines, a modern and thoroughly critical scrutiny should lead the writer to the above con-

que la théorie de la sélection était vraie avant Darwin, que la théorie de Képler était vraie avant Képler, que la théorie chimique était vraie avant Lavoisier, que la théorie de l'électricité était vraie avant Ampère, Faraday, Maxwell et Hertz.—*Proceedings of the S.P.R.*, April, 1905, p. 49.

¹ *Human Personality*, ii. p. 288.

² *Ibid.* p. 288.

clusion.¹ We are not concerned here either to adopt or reject his opinion. What we desire to point out is that such an outcome of fearless scientific scrutiny as is here represented, suffices at the very least to rob Haeckel's contemptuous reference to 'occult phenomena' of all value as a make-weight against the possibility of human immortality.

IX. Is, then, Haeckel's general affirmation concerning the findings of modern science, in this regard, any more conclusive or reliable than his denunciation of 'spiritist evidence for the persistence of mind'? Let us see.

His attitude is by this time too well known to require further quotation. Yet its characteristic note must not be overlooked, viz. the unqualified and overwhelming confidence with which every other conclusion than his own is flouted. 'Not a single one of all the different proofs' of human immortality is 'of a scientific character.' The theological proof is 'a pure myth'; the cosmological is 'a baseless dogma'; the teleological 'rests on a false anthropism'; the moral is 'nothing more than a pious wish'; the

¹ No one can appreciate the worth of this expression of opinion who has not given careful attention to the preceding thousand pages of which it is the result. Nor is that sufficient without also bearing in mind what the writer distinctly states in his Preface. 'The book is an exposition rather than a proof. I cannot summarize within my modest limits the mass of evidence already gathered together in the sixteen volumes of *Proceedings*, and the nine volumes of the *Journal of the S.P.R.*, in *Phantasms of the Living*, and other books hereafter referred to, and in manuscript collections. This branch of knowledge, like others, must be studied carefully and in detail by those who care to understand or advance it.'

ethnological is 'an error in fact'; the ontological is 'a spiritualistic fallacy.' 'All these and similar proofs of athanatism are in a parlous condition; they are definitely annulled by the scientific criticism of the last few decades.'¹ The later volume of course repeats the same tale. 'Modern science refuses an inch of ground for athanatism.'² It 'has not taught us a single fact that points to the existence of an immaterial world.'³ So that 'the highest intellectual progress' as represented in the Monistic view, 'definitely rules out,' and indeed 'shatters,' the 'three central dogmas of God, freedom, and immortality.'

Such assertions manifestly leave no room for discussion. All, therefore, that can or need be here said in reply, is simply that such representations are false. And the best, if not also the only, substantiation of such reply, will be to let men of acknowledged competence express their own judgement. Suppose, for instance, we take such a work as Mr. T. J. Hudson's *Scientific Demonstration of a Future Life*. The author states that—

The object of this book is to outline a method of scientific inquiry concerning the powers, attributes, and destiny of the soul, and to specifically point out and classify a sufficient number of the well-authenticated facts of psychic science to demonstrate the fact of a future life for mankind. In demonstrating the fact of a future life, I have simply analysed the mental organization of man, and shown that, from the very nature of his physical, intellectual, and psychical structure and organism, any other conclusion than that he is destined to a future life is logically and scientifically untenable.⁴

¹ *Riddle*, p. 72.

² *Wonders*, p. 113.

³ *Wonders*, p. 454.

⁴ Preface, p. viii.

Now, even if such an effort and conclusion stood alone, there would be no warrant for its dismissal with contempt by a writer claiming so loudly to be himself considered scientific, philosophical, and sincere. That in his general findings Mr. Hudson is very far from being alone, we shall see in a moment. Here we note that Haeckel's scorn is chiefly directed against the procedure thus expressed — 'I have simply analysed the mental organization of man.' His own pronouncement is that—

The future task of scientific psychology, therefore, is not, as it once was, the exclusively subjective and introspective analysis of the highly developed mind of a philosopher, but the objective comparative study of the long gradation by which man has slowly arisen through a vast series of lower animal conditions.¹

But why are we to regard this, his *ipse dixit*, as final? In other words, what grounds are there for asserting that the truth concerning the nature and destiny of man, is to be inferred from his past rather than from his present? Such a suggestion certainly seems to have no more of either sense or science in it than to affirm that the character and prospects of some promising lad on the point of leaving school, are to be estimated from the details of his first seven years' history, rather than from what powers he actually evinces in his seventeenth. Or, to shift the figure, it is the same as if one should estimate the worth of all the trees in an orchard by digging to discover the size and form of their roots, rather than by gathering their ripe fruit. Such an attitude reminds

¹ *Riddle*, p. 39.

one of what Dr. W. N. Clarke said, and that truly, concerning Huxley and his methods:

He was interested in tracing the evolution of mind in the animal world; and so far as his scientific studies led him to consider mind in man, it was by this avenue, from below, that he approached it. It was through exact examination of life below man that Huxley's methods were developed and his tendencies of thought were established. Nay, his work was mainly upon the lower forms of the life that is inferior to man: and it was wrought largely by examination of creatures dead. It was a dissected cockroach that was to give light to the correspondent who sat in darkness. Give light it could, of course, but only so far as a dissected cockroach can be illuminant—and there might be regions which it could not sufficiently light up.¹

No doubt this is what is at present known as 'the scientific method,' in some quarters. But it does not require the erudition of an expert psychologist to make plain that it is 'science falsely so called.' Well indeed does Sir Oliver Lodge sum up the case in saying that 'a large tract of knowledge may have been omitted from its ken, which, when included, will revolutionize some of their speculative opinions.'² As a matter of fact, the study of 'occult' mental science just considered, is now actually doing for the realm of the human mind what the investigation of radium is doing for the realm of physics. He who should pronounce to-day that the last word has been said, and the last discovery made, in the nature and potentialities of matter, would be accounted the incarnation of unscientific bigotry. Is he any less so who, in the relations between mind and matter, dogmatizes for all the future?

¹ *Huxley and Phillips Brooks*, p. 44.

² *Hibbert Journal*, October, 1902, p. 57.

Most of all is such an attitude inconsistent on the part of a Haeckelian monist. For by analogy, before lifeless matter passed, as he believes, into living, it could have been dogmatically declared that life was unthinkable, and all belief in its possibility mere superstition; so afterwards, to suggest that consciousness should supervene upon the non-conscious, might have also been pronounced the most baseless dogma. Assuredly the lesson of science, from all we know of the past, is that the most unscientific of all attitudes is the assumption that our infinitesimal fraction of knowledge either includes all present realities, or marks the limit of future experiences. Mr. Fiske is therefore perfectly justified in his declaration that—

The materialistic assumption that there is no such state of things as a world of thought and feeling in the absence of a cerebrum, and that the life of the soul accordingly ends with the life of the body, is perhaps the most baseless assumption that is known to the history of philosophy.—This will at once become apparent if we remember that human experience is very far indeed from being infinite, and that there are in all probability immense regions of existence, in every way as real as the region which we know, yet concerning which we cannot form the faintest rudiment of a conception.¹

¹ *Man's Destiny*, p. 110; *Life Everlasting*, p. 62. The same writer says elsewhere (*Through Nature to God*, p. 144): 'When Haeckel tells us that the doctrine of evolution forbids us to believe in a future life, it is not because he has rationally deduced such a conclusion from the doctrine, but because he takes his opinions ready-made on such matters from Ludwig Büchner, who is simply an echo of the eighteenth-century atheist La Mettrie. We shall see that the doctrine of evolution has implications very different from what Haeckel supposes.' This is pronounced by Mr. McCabe 'an egregious statement, one of the mysteries of religious controversy, petty and petulant criticism.' No

And since Professor Le Conte is so often referred to by Haeckel's champion as an unsatisfactory witness for 'theism and athanatism,' his own words will best enable the reader to judge of the worth of his testimony:

Thus, then, Nature, through the whole geological history of the earth, was gestative mother of spirit, which, after its long embryonic development, came to birth and independent life and immortality in man. Is there any conceivable meaning in Nature without this consummation? All evolution has its beginning, its course, its end. Without spirit-immortality this beautiful cosmos, which has been developing into increasing beauty for so many millions of years, when its evolution has run its course and all is over, would be precisely as if it had never been—an idle dream, an idiot tale, signifying nothing. I repeat, without spirit-immortality the cosmos has no meaning.¹

Again, in regard to Goethe, whom Haeckel so persistently claims as the poet of Monism,² one can easily understand why he should allege that 'some of the remarks that Eckermann has left us from his conversation with Goethe must be taken very

doubt such epithets correctly express his feelings, but what else is there in them? Only (i) the assumption that Haeckel comes to his recently published argument without prejudice, which every reader can see to be untrue; and (ii) the further assumption that because Haeckel has thus set forth his views, therefore they are the only 'rational' ones! If it be necessary to point out an 'egregious statement,' I should suggest that it is found in this writer's representation of Mr. Fiske's conclusion as being 'almost less satisfactory than that of Le Conte,' viz. that 'there is in man a psychic element identical in nature with that which is eternal.' Now let any fair-minded reader study Fiske's works, and Le Conte's, and see if this picked half of a sentence truthfully expresses 'the actuality of the position' in either case.

¹ *Evolution*, &c., p. 306.

² *Riddle*, p. 8; *Wonders*, p. 457-9.

carefully,'¹ seeing that in his *Conversations with Eckermann* we find him saying:

At the age of seventy-five one must, of course, think sometimes of death. But the thought never gives me the least uneasiness, for I am fully convinced that our spirit is a being of a nature quite indestructible, and that its activity continues from eternity to eternity. It is like the sun, which seems to set only to our earthly eyes, but which in reality never sets, but shines on unceasingly.²

Furthermore we are told that—

Professor J. Royce, another distinguished American thinker whom the Gifford Trust has invited amongst us, 'gives up the question of immortality as insoluble by philosophy'; so Professor Le Conte assures us.³

¹ As to whether he is warranted in adding that 'generally speaking, this source is not reliable; many of the observations that the mediocre Eckermann puts into the mouth of the great Goethe are quite inconsistent with his character and are more or less perverted'—or whether this sentence is merely a necessary attempt to take off the edge of some of Goethe's plain utterances, I leave the reader to decide for himself. He would do well to consult the section on 'Haeckel and Goethe' in Dr. Dennert's *Die Wahrheit über Ernst Haeckel*, p. 40. (See also Paulsen's *Philosophia Mül.*, p. 153, 154.) One has certainly to require good reasons for the implication that all excerpts from Goethe which harmonize with Haeckel's views are genuine, and all contrary thereto are forgeries. Dr. Dennert will certainly be glad to give reasons for his attitude. 'Von Goethe sind so viel Stellen bekannt, die dagegen sprechen, dass er ein Kind Haeckelschen Geistes gewesen wäre, dass es sich kaum verlohnt, sie noch einmal zu zitieren. Nur eins! Er sagt einmal: "die Zeit des Zweifels ist vorüber, es zweifelt jetzt so wenig jemand an sich selbst als an Gott"' (p. 49).

² vol. i. p. 161.

³ *Haeckel's Critics Answered*, p. 65. Le Conte himself, we are then told, 'follows this statement with a candid admission that "perhaps it is."' We know, in the light of his own words just quoted, how to appreciate that remark. But this writer proceeds: 'If that view of the world-process which we have hitherto sustained is correct, it follows, he says, that the human mind-force is a spark of the Divine Energy and a part of God. So is the force of a motor-car,

In that case it will be best to have Professor Royce's own words before us.¹ They may require thought, but the reader can form his own judgement as to whether they suggest Haeckel's 'thanatism.'

I have had time thus only to hint at what to my mind is the true basis of a rational conception of Immortality. Individuality we mean and seek. That, in God, we win and consciously win, and in a life that is not this present mortal life. How, when, where, in that particular higher form of finite consciousness, our various individual meanings get their final and unique expression I also in no wise pretend to know or to guess. I know only that our various meanings, through whatever vicissitudes of fortune, consciously come to what we individually, and God in whom alone we are individuals, shall together regard as the attainment of our unique place, and of our true relationships both to other individuals and to the all-inclusive Individual God Himself. Further into the occult it is not the business of philosophy to go. My nearest friends, as we have seen, are already occult enough for me. I wait until this mortal shall put on—Individuality.

Quotations, indeed, might be multiplied indefinitely, which would entirely support Mr. Rhondda Williams's assertion that 'it is pure assumption on Haeckel's part to try and pass off his belief in the destruction of the soul at death as a necessary scientific deduction: it is nothing of the kind; the field is still clear for building up a reasonable faith

on his principles.' Really this author's appreciation of motor-cars seems boundless. We have already learned that the motor-car is alive, then that (unlike most of those we encounter on the roads and in the law-courts) it needs no guidance; now we find that as 'a spark of the divine energy' it is equivalent to the mind of man. So we arrive at a thinking motor-car, or, in Haeckel's phraseology, one 'who is determined to have a guarantee of his existence beyond the grave at any price.' These must be wonderful machines.

¹ Ingersoll Lecture, 1899, pp. 78-80.

on other grounds.'¹ But one or two more only must suffice.

Monists are glad enough, upon occasion,² to avail themselves of some of the things said by Professor Draper in his 'most painfully unfair volume' on *The Conflict between Science and Religion*; but, as Dr. Joseph Cook pointed out,³ 'he at least has proved his freedom from all traditional opinions.' It is, therefore, as one of the 'scientific laymen' whose utterances are reliable, that he says:

It is for the physiologist to assert and uphold the doctrine of the oneness, the accountability and the immortality of the soul, and the great truth that, as there is but one God in the universe, so there is but one spirit in man.⁴

Professor Draper wrote thus as a modern physiologist: in what respect is his conclusion less valid scientifically than that of Professor Haeckel? Will it be pretended that since his work was published, there have been such developments of physiology as to make psychology of less account? Or will any one other than a materialistic monist venture to affirm that the wondrous advances in physics, are in the least detracting from similar developments in psychics?⁵

¹ *Does Science destroy Religion?* p. 22. 'Even to-day we may sometimes be entertained by a belated naturalist who is fully persuaded that his denial of human immortality is an inevitable corollary from the doctrine of evolution.'—Fiske, *Life Everlasting*, p. 47.

² *Riddle*, pp. 110, 118.

³ Boston Monday Lectures, *Biology*, p. 150.

⁴ Draper, *Physiology*, p. 24.

⁵ 'Psychology is barely fifty years old, but already is becoming psychophysics. We stated earlier that mind is matter in certain combinations transcended. It would perhaps be more accurate to

There is no warrant whatever for the pseudo-scientific assumption that the human personality for which Christian faith predicates immortality, is either reduced to a 'function of the brain,' or proved to be a mere 'collective idea,' to be for ever 'extinguished' by death. In the realms of physics and anatomy, which may be said to be most involved, no abler modern representatives can be mentioned, than the late Professors G. G. Stokes and Kitchen Parker. Why should not the attitude of such men be considered as characteristic of science as that of Professors Haeckel and Büchner? Yet Dr. Stokes, whilst he was Lucasian Professor of Mathematics at Cambridge and President of the Royal Society, wrote as follows, upon the question whether Christianity 'is now believed'—as Haeckel's champion and his friends are eagerly endeavouring to persuade the people—'chiefly by the ignorant and uneducated,' and 'that scientific men almost universally reject it':

I feel reluctant to speak of the living, able though I am to do so, but I know that men like Faraday, Clerk Maxwell, Kitchen Parker, and others were sincere believers in the Christian faith. The last held the modern view of evolution in what some might think an extreme form, and regarded it as God's mode of working; but from expressions which have fallen from him in conversation and correspondence, I feel sure that he did not reject the supernatural. I am aware that there are some scientific men who admire Christian morality, but reject the supernatural element in the Christian religion. To me the supernatural element appears

say that in proportion as the universe is apprehended from a more comprehensive standpoint, it displays what is to us the mental aspect more plainly.'—R. B. Arnold, *Scientific Fact and Metaphysical Reality*, p. 341.

to be essential, and I know of many scientific men who think the same.¹

So that, finally, summing up the general results of modern science as affecting the Christian doctrine of immortality, the words of the two well-known Professors of Natural Philosophy already referred to may be taken to express the truth as really to-day as twenty years ago :

The great scientific principle which we have made use of has been the law of continuity. This simply means that the whole universe is of a piece : that it is something which an intelligent being is capable of understanding, not completely, nor all at once, but better and better the more he studies it. In this great whole which we call the Universe, there is no impenetrable barrier to the intellectual development of the individual. Death is not such a barrier, whether we contemplate it in others, or whether we experience it ourselves.²

Or, if the same scientific finding must be expressed in biological terms, and from still more modern sources, the words of Mr. David Syme are as true as succinct :

But whether or not the instinct of self-preservation, the permanency of memory, or the independence of the mind on organic

¹ See, for other similar testimonies, a brief summary published by the Religious Tract Society—Present-day Tracts, No. 67, so 'modestly' characterized by Mr. McCabe as 'rubbish.' The term 'supernatural' will of course be taken in the sense defined by Sir Oliver Lodge, 'if the term "natural" be limited to that region of which we now believe that we have any direct scientific knowledge.' And the actual words of Professor Kitchen Parker (Hunterian Professor at the Royal College of Surgeons) are 'Do not think that because evolution has been taken advantage of to endeavour to get rid of Christianity, therefore evolution is, or means, any harm; or that Darwin's theory of the gradual origin of species means any harm to Christian faith. It means nothing of the sort.'

² *The Unseen Universe*, p. 270.

structure, be guides that we can rely upon with implicit confidence, this much, at all events, we hope we have brought some evidence to prove, namely, that the physicist has failed to explain the phenomena of organic life. What he puts forth as the causes of these phenomena are only the effects of an antecedent and unacknowledged cause. He evades the conclusion to which the facts inevitably lead, that behind the brain, ganglia, germ-cell, and protoplasm, there must be a force of some kind, a primordial cause of all organic movement. This primordial cause we may call the Organizing Power. It is this which builds up the body cell by cell, organ by organ, system by system, which actuates each to the discharge of its own peculiar functions, which adjusts one to the other, and modifies all to the conditions of existence, which repairs waste, heals wounds, assails all that is inimical and fosters all that is friendly to its growth: and in the absence of any evidence to the contrary, we have no reason to believe that this Organizing Power will perish with the body which is its handiwork.¹

Surveying, then, these various allegations as put forth in the name of modern science by Professor Haeckel, we submit that no one of them taken alone, nor all of them put together, amounts to anything like a demonstration of his 'thanatism,' or a disproof of the human, let alone the Christian, hope of 'athanatism.' The utmost that can with logical fairness and scientific warrant be derived from them is the reminder of Flügge,² above cited, that 'assuredly the Christian belief in a future state is capable of and urgently needs elevation, if it is to be regarded as anything more than a popular mythus, and to possess any interest or attraction for cultivated men.' Such a suggestion every educated

¹ *The Soul, a Study and an Argument*, pp. 205, 206.

² Quoted by Mr. G. H. Curteis, Boyle Lectures for 1884, p. 156.

Christian will not only accept, but desire to emphasize; and in so far as the ruthless iconoclasm of Monism compels the churches to revise their theologies and hymnologies in this respect, it will but serve, like the *Clarion* anti-Christian propaganda, to clarify and vivify the faith it seeks to destroy.

This much may certainly be granted to Haeckel and his co-monists, that he is quite right in linking together 'God, freedom, and immortality' as the 'three central dogmas' of Christian belief.¹ They are indeed inseparable and fundamental. Nor would any violence be done to truth by attaching to them, as such, an order in time, and regarding the thought of God as giving us the past, the conviction of freedom as filling the present, and the hope of immortality as charging the future with immeasurable value. Certain it is that the past, so far as we are capable of surveying it, cannot be explained without God. The present manifestly includes the results of the energies of the human will. The future affords illimitable scope for the continuance of relations between these two.

If, indeed, the thought of God could be rationally or scientifically disposed of as summarily as Haeckel

¹ His own expressions are 'dogmas of metaphysics and of the dualistic philosophy.' But the latter, undefined, will certainly not terrorize us. Whilst as to the former, Mr. Herbert Spencer's rebuke will quite suffice to draw the sting of his would-be scorn: 'You cannot take up any problem in physics without being quickly led to some metaphysical problem which you can neither solve nor evade.'—See Fiske's *Life Everlasting*, p. 50.

and his friends assert,¹ it would doubtless become impossible to establish any hope for the future. Even the indefeasible conviction of our own consciousness that we are not mere automata, would be unable to give us any guarantee of the existence beyond the grave which Haeckel truly says 'the human personality is determined' if possible 'to have.' Every wish in that direction would be crushed by the sphinx-like indifference of the 'blind chance,' or 'stern necessity,' which Monism enthrones in the place of God. If all things are viewed as arising out of nothing—and assuredly there is nothing causally adequate in the assumption of the much-vaunted 'eternity of substance'—then into nothing all things may be expected to vanish.

But we have sufficiently shown that we are not reduced to such a desperate plight. As long, indeed, as human reason endures, it must avow that 'force' unguided can only bring about chaos. And we are our own witnesses that even the fraction of the universe that we partly know, is not chaos. For which reason we decline to accept the Haeckelian dogmatic atheism which he calls 'pantheism.'

But when the thought of God is cherished, there are three great assurances therefrom arising, which may well bring us comfort and hope as we shrink from the nightmare of Monistic 'thanatism.' Evolution's

¹ 'In educated people there is also especially the unprejudiced study of natural phenomena, which reveals the futility of the theistic idea.' (*Riddle*, p. 102); 'God has shrunk into an intangible cosmic principle.' (*Haeckel's Critics Answered*, p. 61). The reader will appreciate the charming 'modesty' of both these papal pronouncements.

progress in the past; humanity's travail in the present; together with Christ's interpretation of the dim foregleams of something better to come in nature—especially in our own nature; these form a three-fold confirmation of our noblest hopes, which neither the 'Riddles' nor the 'Wonders' of the universe can diminish, let alone destroy.

1. Concerning the first of these enough has been said above,¹ especially in the words of Professor Le Conte and Mr. Fiske.

2. But what Haeckel's advocate terms 'the argument for a future life from the alleged exigencies of the moral order,' and dismisses as unworthy of notice,² is not only of great significance, but becomes increasingly so. The direful fact that 'social misery of all kinds spreads wider and wider, almost in proportion as civilization develops,'³ connotes a twin mystery of pain and evil which to the mere humanist is often, confessedly, as painful as to the Christian theist. Whilst, however, the former has ultimately

¹ Though there may be room to repeat the estimate of Herder (as quoted by Joseph Cook in his *Biology*, p. 132): 'Die Kraft die in mir denkt und wirkt, ist ihrer Natur nach eine so ewige Kraft, als jene, die Sonnen und Sterne zusammenhält. Ihre Natur ist ewig, wie der Verstand Gottes, und die Stützen meines Daseins—nicht meiner Körperlichen Erscheinung—sind fest, als die Pfeiler des Weltalls.'

² 'But this is little urged to-day, and we shall see, when we come to deal with the monistic ethics, that it rests on a false conception of moral law.'—*Haeckel's Critics Answered*, p. 68. The opening statement here is not true. To all who are not mentally dominated by mechanical monism, it means as much as ever, or rather more, as civilization, according to Haeckel's own acknowledgement, 'develops social misery.' The latter clause is merely an expression of this writer's opinion, which will shortly be examined in another publication.

³ *Wonders*, p. 446.

neither explanation nor hope beyond the actualities and possibilities of the very civilization which, to so tragic a degree, causes the miseries, the latter is as really compelled as permitted to see in the present moral chaos the hope of something worthier alike of God and man. It is, of course, perfectly in accord with the style of Monism to write that—

The 'critique of pure reason' shows this treasured faith to be a mere superstition, like the belief in a personal God which generally accompanies it,

especially when the significant acknowledgement has to be added :

Yet even to-day millions of believers—not only of the lower educated masses, but even of the most cultured classes—look on this superstition as their dearest possession and their most priceless treasure.¹

But when the writer proceeds to proclaim that—

It soon becomes apparent to the impartial critic that this value rests for the most part on fancy, on the want of clear judgement and consecutive thought,

it becomes our duty, as Professor James says, on merely critical grounds² to point out that this is neither science nor philosophy, but simple impertinence,³ meriting only curt dismissal. What there

¹ *Biddle*, p. 73.

² 'We ought, as mere critics doing police-duty among the vagaries of mankind . . .' (v. p. 327 above).

³ It is only matched by the ignorance—if it be not wilful misrepresentation—which asserts that 'the evangelical of North Europe longs for an immense Gothic cathedral, in which he can chant the praises of the Lord of hosts for all eternity.' The amount of truth which may be in the accompanying sneers at the future hopes of the American

is here at all worth notice, may be found in the following sentences :

Man's emotional craving clings to the belief in immortality for two main reasons : first, in the hope of better conditions of life beyond the grave ; and secondly, in the hope of seeing once more the dear and loved ones whom death has torn from us. As for the first hope, it corresponds to a natural feeling of the justice of compensation, which is quite correct subjectively, but has no objective validity whatever. We make our claim for an indemnity for the unnumbered defects and sorrows of our earthly existence, without the slightest real prospect or guarantee of receiving it.¹

The final clauses of the two last sentences here, exhibit to perfection the cool assumptions which form the main pillars of the Monistic philosophy. Whatever impression of truthfulness they may convey to the unwary reader, is derived entirely from taking for granted that God is only a myth, and man nothing but a physiological machine. These, however, are the very things which Haeckel's volumes set out to prove. The theistic student, therefore, will decline to be thus browbeaten, and will proceed to ask what the conviction that evolution is the method of Divine creation means, when it is applied to the present cruel contradictions between the noblest capacities and worthiest desires of man and the actual conditions of human life. Professor Haeckel sufficiently

Indian, Cingalese, Arab, and Sicilian, does not serve to mitigate this shallow slander. It is on a par with the mood of a parent (?) who should despise his child and proclaim its future to be only imbecility, because in nursery days it preferred 'puffers' or dolls, to science or philosophy. Verily it is a poor 'system' which, to substantiate its case, has to make the worst of humanity's potential best.

¹ *Riddle*, p. 73.

contradicts himself when in one breath he speaks of the 'hope of better conditions in life' as an 'emotional craving,' and with the next, of a 'natural feeling of the justice of compensation which is quite correct subjectively.' We take leave to remind him that justice and correctness are not 'cravings' of emotion at all, but matters of moral perception and estimate. Emotion is, all the same, a worthy factor in human nature, and the 'Rationalism' which to support itself requires always to be pouring scorn thereupon, exposes its own inadequacy.

But the hope of the Christian theist concerning the future is certainly not based upon any merely 'emotional craving.' Such a misrepresentation simply displays the ignorance, or the prejudice, or both, of the man who makes it. The Christian hope in this respect, rests upon his estimate of the character of God, in face of the facts of present human existence. It is born of an intellectual perception which may certainly be vivified by emotion, but is no more a mere emotional craving than is the attitude of the modern Socialist towards the unjust inequalities of civilized society. When a modern Christian critic tells us how keenly he feels 'the problem of pain' to be the chief objection to 'a theism otherwise adequate to our deepest needs,'¹ we not only sympathize—that is, feel—with him, but we agree—that is, we judge with him; and it is out of the judgement, not out of the feeling, that our hopes for a better future arise. If God be

¹ v. p. 232 above.

God, as the Christian theist conceives of Him, then the evolution which is at once His method of expressing Himself in creation, and the indirect cause of such results as we see, must be incomplete. Hence, in a broader, fuller sense than even Browning meant, we are driven to say :

Grow old along with me !
 The best is yet to be,
 The last of life, for which the first was made :
 Our times are in His hand
 Who saith—' A whole I planned,'
 Youth shows but half : trust God : see all, nor be afraid !¹

The same truth, an intellectual conviction worthily lit up by emotion, is expressed, and none too strongly, by Dr. Momerie :

We must remember that to immense numbers of our fellow creatures life is infinitely sad. To many it is a struggle for bare existence, a struggle monotonous, uninteresting, disappointing, wearisome. There have been, and are, and will be, a vast multitude to whom the word 'love' is an unmeaning term. 'Somewhere, somehow,' as Oliver Wendell Holmes passionately remarks, 'love is in store for them : the universe must not be allowed to fool them so cruelly.' Yes ! somewhere there must be compensation for the unsatisfied yearnings of earth. If not, humanity is a contemptible failure, and its Creator is unworthy of the name of God.—If this world be a system complete in itself, if this life is not to be followed by another, if hopes are born only to be blighted, yearnings roused only to be crushed, beings created only to be destroyed—then the Author of Nature is either very wicked or very weak. Either He does not desire the well-being of His creatures, or He could not accomplish it. God and immortality stand or fall together.²

There is no need to dwell upon this aspect of the case at greater length. It may be surveyed with equal

¹ ' Rabbi ben Ezra,' stanza 1.

² *The Basis of Religion*, pp. 23, 26.

impressiveness from the standpoints of science or religion, of poetry or metaphysics. If the testimony of the last-named be desired, manifestly free from the emotionalism of 'superstition,' it can scarcely be obtained in more graphic form than in the words of Mr. R. B. Arnold :

Worst of all is the fact that the greater the development of these instincts, which we all recognize as higher, the greater necessarily the appreciation of the dark side of life, and the greater the consciousness that such ideals are mainly impracticable. There is not merely the question of weighing happiness against misery. We have to deal with the fact that, if this life be all, the highest nature is synonymous with the fullest realization of ultimate failure. The very principle of our existence is the death or downfall of each other, and at best we can only make the struggle less brutally patent.—'All this is only healthy competition ; without it no one would do any work,' says the strenuous journalist. But the work can have no worthy object ; the spread of civilization tends more and more towards the 'millennium of the electric button' ; the public taste forces the true composer to adapt himself, simply that the last child violinist 'out' may display his technique ; pictures are bought by the yard to fit vacant spaces on the pork king's wall ; science is mainly valued for its latest improvements of the motor-car, and Christian self-sacrifice is replaced, even as an ideal, by the 'enlightened' adaptation of altruism to egotism.—We believe that if there is no future existence the world is radically evil for us by principle.¹

Such a vision is, indeed, more true than flattering to civilized humanity, and it suggests some theistic 'difficulties' which it were vain to attempt to conceal. Nay, it is precisely the fact that they can neither be hid nor answered, which constitutes the pointing to the future. It is just the unsolved and unsolvable

¹ *Scientific Fact and Metaphysical Reality*, pp. 321, 322, 323.

tragedies of the present which, so long as we retain faith in God, create the moral necessity for future existence. 'I remember God and am disquieted,' said the ancient seer.¹ To such disquiet modern civilization adds unmeasured extension and intensity. It is all too easy, in these days, to believe how Sir Bedivere—

Heard in his tent the moanings of the King :
 'I found Him in the shining of the stars,
 I marked Him in the flowering of His fields,
 But in His ways with men I find Him not.
 I waged His wars, and now I pass and die.
 O me ! for why is all around us here
 As if some lesser God had made the world,
 But had not force to shape it as he would,
 Till the High God behold it from beyond
 And enter it and make it beautiful.

My God, Thou hast forgotten me in my death :
 Nay—God my Christ—I pass, but shall not die.'²

The philosophy which in such tribulation and yearning sees nothing but emotion and superstition, shows itself to be simply unable or unwilling to face the facts which it professes to summarize.

As regards the objection which was common enough long before Haeckel and his admirers blared it abroad with brazen trumpets, to the effect that all here suggested is but 'speculation,' and 'deals only with possibility and not with proof,' it cannot possibly be faced more plainly and intellectually than Principal Caird has done in his Gifford Lectures.

¹ Psalm lxxiii. 2.

² Tennyson, *Idylls of the King*—'The Passing of Arthur.'

Have we no experience of such a thing as unfulfilled promise even as regards the present life? How do I know that it will be otherwise hereafter, that even the nature that seems to grow and expand to the last is not doomed to extinction at the moment of death?

My reply is, that to the man who has no faith in God these questions are absolutely unanswerable. If underneath all the phenomena of the world in which we live we can discern no principle of reason and order, no absolute intelligence and love, then, indeed, the world's course may be the thing of meaningless waste and reckless incongruity which such a supposition involves. But if there be a God, an infinite loving wisdom which has endowed us with the capacity of knowing, loving, communing with itself, and which has made the order of the world a system of moral education, preparing and disciplining us for a career of never-ending goodness and blessedness hereafter, can it be that all this vast moral system, with all the hopes and aspirations it encourages us to cherish, is but an elaborate and cruel deception? It is impossible to believe it, *if* there be a God, and *if* that God be manifested in that which is best and greatest in man, above all, in the man Christ Jesus. It is from this point we begin, and it is to this that all our arguments return.¹

3. If, finally, it be objected that such a conception of God as is manifestly necessary to give weight and force to the above contention, is not obtainable from the merely scientific or philosophical survey of nature, Christian theism acknowledges it at once, and with all emphasis. 'I am well aware,' says Professor Peake, 'that to some I shall seem to drug my doubt with the anodyne of the gospel.' But the need for such an 'anodyne,' is certainly no argument whatever against its actuality or validity.

It is not only the confession, but the glory of Christian theism that it learns of Christ much more than nature can teach. As we must consider presently

¹ *The Fundamental Ideas of Christianity*, vol. ii. pp. 295, 296.

the relations between Monism and Christianity, we need only here ask why should we not, as students of science, learn also of Him? Assuredly we are under no necessity whatever to accept Haeckel's—i.e. 'Saladin's'—estimate either of Christ's person or mission. When cultured rationalism tells us by the mouth of Mr. Lecky, that 'the simple record of His three short years of active life has done more to regenerate and soften mankind than all the disquisitions of philosophers and than all the exhortations of moralists'¹; when thorough-going scepticism affirms, as Strauss did, that 'amongst the personages to whom mankind is indebted for the perfecting of its moral consciousness, Jesus occupies at any rate the highest place'²—to say nothing of the estimate of thousands of other minds entirely as capable in every respect as any that are associated with Haeckel's monism—we are well warranted in listening herein to Him who 'spake as never man spake.' The modern, as well as ancient, failure of science and philosophy to give us a clear vision of God, only confirms His own word, 'No man cometh unto the Father but through Me.'

Beyond all controversy the sweetest hope that ever soothed a human heart in the anguish of bereavement, and the strongest assurance that can ever inspire a human soul that is far enough advanced above the animal to tremble at the thought of dissolution, are expressed in His treasured

¹ *Hist. of Europ. Morals*, ii. p. 9.

² *New Life of Jesus*, ii. 437, 438.

words, 'Let not your heart be troubled: believe in God: believe also in Me. In My Father's house are many resting-stages¹: if it were not so I would have told you.' The Christian does not affirm that because those words have cheered more hearts than any others ever uttered by mortal lips, therefore they are beyond all question as to 'objective validity.' But he does insist that the task of Sisyphus was but a trifle, compared with that of the Monistic 'system' which is under the necessity of proving the Christ of the Gospels to have been either deceiver or deceived. For which reason, in spite of all the sneers, assumptions, dogmatisms, and misrepresentations, which it has been our painful duty to unmask, we still echo, alike with mind and heart, our late Laureate's noble protest:

Thou wilt not leave us in the dust:

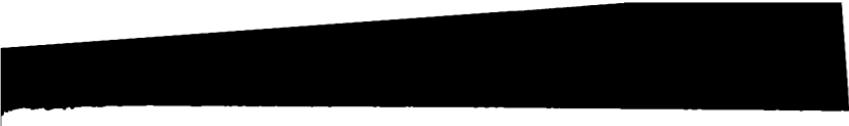
Thou madest man, he knows not why:

He thinks he was not made to die:

And Thou hast made him: Thou art just.

¹ See Dr. Westcott's note on John xiv. 2, for the true significance here, of the Greek *μoral*, or the Vulgate *mansiones*. The retention of the modern English 'mansions' here, in the R.V., is nothing less than a Christian calamity. It is alike quite impossible—for a 'mansion' to-day is larger than a 'house'—and woefully misleading. 'Mansions' are now associated with the very opposite ideas to those Christ undoubtedly meant to convey. Mere luxury, class isolation, and intellectual stagnation, are no part of the Christian promise of the future. A free yet true modern rendering would be—'In the Universe of Love Divine there are countless stages of upward evolution.' That, and that alone, covers the need of humanity.





VII

THE LAW OF SUBSTANCE

'Laws without a lawgiver, intelligible order and no intelligent agents, meaning and purpose before there is aught that feels or strives—a phantom skeleton first which then quickens itself to life and power—is not this unthinkable? Moreover, laws are not real forces, but only abstract formulae. Bodies gravitate, no doubt, but not because constrained to do so by an independent law: the law is but a generalisation describing their behaviour: to know more about that, we must know more about them.'

PROFESSOR J. WARD, *Hibbert Journal*, October, 1905, p. 96.

'My objection to materialism is, simply, that it involves a contradiction, and therefore I have a difficulty in saying what is its logical result. If two and two make five, what is the sum of three and three? That is a question with which I do not see how to deal. And, in regard to materialism, I have a similar difficulty about the primary assumption. It is the first step that costs. If any feeling can be explained as a motion, perhaps our whole nature may be explained in the same way.'

SIR LESLIE STEPHEN, *An Agnostic's Apology*, p. 157.

'The distinction between the First Cause and secondary causes is a perfectly unreal distinction. It may, I think, be shown that the concept of cause itself necessarily involves the existence of a mind which thinks and wills—a mind whose thinking and willing are in some degree analogous to our own thinking and willing. If this be so, then secondary causes are not causes at all. They are simply symbols which serve to foreshadow the uniform action of the Divine Will.'

S. H. BEIBITZ, 'The New Point of View in Theology,'

Hibbert Journal, January, 1904, p. 304.

'As the doctrine of natural selection out of an endless diversity of aimless variations fails to account for *that general consistency of the advance along definite lines of progress* which is manifested in the history of evolution, it leaves untouched the evidence of design in the original scheme of the organized creation; while it transfers the idea of that design from the particular to the general, making all the special cases of adaptation the foreknown results of the adoption of that general order which we call Law.'

DR. W. B. CARPENTER, *Modern Review*, October, 1884, p. 700.

VII

THE LAW OF SUBSTANCE

THE reason for coining the phrase so oft repeated in Professor Hæckel's works, and the unmeasured importance attached to it, may be best expressed in his own words :

The supreme and all-pervading law of nature, the true and only cosmological law, is in my opinion, the law of substance : its discovery and establishment is the greatest intellectual triumph of the nineteenth century, in the sense that all other known laws of nature are subordinate to it. Under the name of 'law of substance' we embrace two supreme laws of different origin and age—the older is the chemical law of the 'conservation of matter,' and the younger is the physical law of the 'conservation of energy.' It will be self-evident to many readers, and is acknowledged by most of the scientific men of the day, that these two great laws are essentially inseparable.

The sum total of force or energy in the universe remains constant, no matter what changes take place around us ; it is eternal and infinite, like the matter on which it is inseparably dependent. . . . This supreme law dominates also those elaborate performances of the nervous system which we call, in the higher animals and man, 'the action of the mind.' Our monistic view, that the great cosmic law applies throughout the whole of nature, is of the highest moment. For it not only involves, on its positive side, the essential unity of the cosmos and the causal connexion of all phenomena that come within our cognizance, but it also, in a negative way, marks the highest intellectual progress, in that it definitely rules out the three central doctrines

of metaphysics—God, freedom, and immortality. In assigning mechanical causes to phenomena everywhere, the law of substance comes into line with the universal law of causality.¹

So far as the statement of modern physical conclusions is concerned, no fault need be found with the above. It will, however, be noticed that there are two alleged laws, and two asserted inferences. (1) 'The law of the conservation of matter teaches us that the sum of matter is eternal and unchangeable.' (2) 'The law of the conservation of energy teaches us that the sum of force, or energy, that is ever at work in the universe, is unchangeable.'² (3) The inseparableness of these two comes as an inference: 'They cannot be divided, because if energy is only to be found in association with matter, then, if the law of the conservation of matter falls to the ground, the principle of the conservation of energy falls with it. Energy, therefore, like matter, cannot be destroyed or created by any process known to man.'³ But (4) the further inference as to the consequences of this combination of two laws into one, is no less questionable than it is wide. It would, indeed, be difficult to make a larger claim in fewer words. As it is elsewhere expressed:

From the gloomy problem of substance we have evolved the clear law of substance. The monism of the cosmos which we establish thereon proclaims the absolute dominion of 'the great eternal iron laws' throughout the universe. It thus shatters at

¹ *Riddle*, pp. 75, 82, 83.

² *Wonders*, pp. 465, 466.

³ Hooper, *Aether and Gravitation*, p. 85.

the same time the three central dogmas of the dualistic philosophy—the personality of God, the immortality of the soul, and the freedom of the will.¹

The essential unity of the ‘cosmos’—which here unmistakably connotes the ‘universe’²—the causal connexion of all phenomena; the absolute dominion of great ‘iron laws’; the ‘assigning of mechanical causes to phenomena everywhere’; the ‘highest intellectual progress’ because of ruling out or shattering the ‘three central dogmas of metaphysics’—these and other such demands upon our faith, are verily large enough to make us hesitate before we consent to them.

Inasmuch, then, as the claims of Haeckel’s monism are as vast in extent as they are ostentatiously based upon this ‘law of substance,’ it becomes

¹ *Riddle*, p. 135.

² It were greatly to be desired that the usage of these terms were always similarly clear and unequivocal. It is, however, very far from being the case. Mr. Underhill (*Personal Idealism*, p. 196) rightly says, ‘Mr. Spencer would apparently extend the evolutionary process to the whole universe, though it is by no means clear what he would wish to include in the universe.’ And the remark applies still more, in the case of many other writers, to the two other cognate terms ‘cosmos’ and ‘world.’ All three are not seldom mixed up in confusion. Thus in the chapter of *The Riddle* here considered (p. 76) Haeckel says concerning Spinoza, ‘In his stately pantheistic system the notion of the *world* (the universe, or the cosmos)’ where his own italics identify the world with both the ‘universe’ and the ‘cosmos.’ So too elsewhere (*Confession*, pp. 16, 17). Whereas Mr McCabe talks freely about ‘world-masses,’ and ‘cosmic masses,’ averring that ‘our solar system is as a single snowflake in a shower’; that ‘worlds in every stage of development people the heavens’; that the ‘universe is developed piecemeal, star by star. The hundred millions that we see shining to-day are by no means the universe.’ Surely, then, it is part of the responsibility of his championship to inform us what Haeckel means, when he deliberately calls the ‘world’ the ‘universe.’ Also to make plain

necessary to examine alike its alleged foundation, and the much-vaunted superstructure.

I. In regard, then, to the blending into one of the two laws of the conservation of matter and of energy, the following points merit distinct attention.

1. Haeckel himself acknowledges that 'this fundamental thesis, however, is still much contested in some quarters.'¹ And however 'natural' the thought may be that these two great cosmic theorems are just as intimately united as their objects, matter and force (or energy), it is still 'very far from being generally accepted.' To put it more fully :

It is stoutly contested by the entire dualistic philosophy, vitalistic biology, and parallelistic psychology : even, in fact, whether by the 'cosmos' we are to understand the 'solar system,' or the illimitable sidereal system. Mr. Mallock (*Religion as a Credible Doctrine*, p. 269) is warrantably severe upon Professor Huxley for 'card-sharping' with words and ideas in regard to the term 'cosmic process,' which he rightly says 'naturally suggests and includes all the processes of the universe.' But it is no less necessary here that we should know precisely what is meant by 'cosmos,' and should clearly understand that 'world' does not and cannot connote the 'universe.' It is of the greatest importance that we should know whether the 'cosmic process' consists in the evolution of 'cosmic masses' of which the existing universe is the result. Compared with Haeckel's looseness of diction there is as much more science as reason in the plain statement of the authors of *The Unseen Universe* (p. 96) : 'In fine we do not hesitate to assert that the visible universe cannot comprehend the whole works of God ; because it had its beginning in time and will also come to an end. Perhaps, indeed, it forms only an infinitesimal portion of that stupendous whole which alone is entitled to be called *THE UNIVERSE*.' I am glad to avail myself of italics in order to commend this sober judgement to all who 'search for truth.'

¹ *Riddle*, p. 75.

by a few (inconsistent) monists, who think they find a check to it in 'consciousness,' in the higher mental activity of man, or in other phenomena of our 'free mental life.'¹

The note of contempt here is manifest enough, but it is equally unwarranted and insignificant. It is, of course, open to any man of science to turn philosopher, and say, 'For my part I am convinced of the profound importance of the unifying "law of substance," as an expression of the inseparable connexion in reality of two laws which are only separated in conception.' But whilst no one doubts that such a 'conviction is of the utmost importance in our monistic system,' any student of physics is within his rights in questioning the fact of the assumed unification. Nor is this right in the least ruled out by any amount of scorn condensed into the terms 'dualistic,' 'vitalistic,' 'parallelistic.' Certainly, for all such as have no 'monistic system' to maintain, there are realities enough in the 'higher mental activity' of man, to suggest a very marked 'check to it' which cannot but merit full consideration.

2. Again, when Haeckel says that 'in the ultimate analysis it is found to be a necessary consequence of the principle of causality,'² he is asserting more than either science or philosophy warrants. From such a statement the only possible inference would be that this 'unification of two great theorems' was entirely axiomatic. But so far is this from being the case, that it cannot truthfully be predicated

¹ *Riddle*, p. 76.

² *Ibid.*

even of either of them taken singly, let alone of their 'inseparable combination.' This, as we have already seen, has been definitely and recently affirmed by one of our ablest physicists¹:

I will content myself with saying that both the conservation of energy and the conservation of matter, are doctrines very far from being axiomatic.²

As to the latter, the words of Professor Ward are well entitled to consideration:

There is one absolute statement frequently advanced by modern physicists that flagrantly transgresses the limits of a pure descriptive science—the statement, I mean, that the mass of the universe is a 'definite and unchangeable quantity.' Such partial and approximate evidence as experience affords in favour of such a doctrine seems to be derived ultimately from the facts of gravitation.—But though actual facts conform to such an assumption, there is no necessity about it. Still less is there any justification for converting this principle of mass-conservation into an assertion concerning the mass of the universe, either in respect of its quantity or its constancy. It would be as reasonable to expect from arithmetic a census of the separate bodies in the universe, as to look to pure mechanics for an assurance that the mass of the universe is, as Helmholtz would have us regard it, an eternally unchangeable quantity.³

Whilst as to the conservation of energy, the first thing to be marked is that Haeckel's own phrase,

¹ Sir Oliver Lodge, *Hibbert Journal*, Jan. 1905, p. 321, v. p. 205 above.

² It is true that Haeckel's champion, with his usual modesty—one ought in sober truth to say impertinence—has written in a later number of the same journal that 'as a fact, Sir Oliver Lodge's actual criticism on this side is most improper and unwarranted,' for saying that 'even during Haeckel's lifetime the atom shows signs of breaking up into stuff which is not ordinary matter.' We shall return to this presently. Meanwhile, as Sir Oliver has intimated that he will deal with the subject further, it would be presumption here to suggest any defence of his statement. He is well able to take care of himself.

³ *Naturalism and Agnosticism*, i. p. 84.

'the physical law of the persistence of force' is—to quote Mr. McCabe's mild terms—'most improper and unwarranted.' This constant confusion between 'force' and 'energy,' to say nothing of the identification of each with 'spirit,' is entirely unscientific, as Messrs. Balfour Stewart, and Tait, have clearly pointed out. But even when the terminology has been corrected, it has to be borne in mind, as Dr. Rice has rightly said, that 'the doctrine of the conservation of energy, though resting on strong grounds of probability, is, like all such inductions, undemonstrated and undemonstrable. It may not be absolutely and universally true.'¹ And Professor Ward has well shown how the very pains which Helmholtz took to demonstrate that this law of the conservation of energy was 'contradicted by no facts at present known to science but strikingly confirmed by a very large number,' flatly contradict Mr. Spencer's assumption that it was a 'postulate of consciousness,' whose authority—requiring therefore no pains to demonstrate—'transcends all other whatever.'²

3. But this reference to Helmholtz and the scientific method, compels us to go farther and inquire whether there are sufficient grounds for such absolute assertions in this whole matter as Haeckel multiplies. We soon find that there are not. That there is no scientific demonstration of the unification of the two 'laws' in question into one 'supreme

¹ *Christian Faith in an Age of Science*, p. 293.

² *Naturalism and Agnosticism*, i. p. 215.

law of substance,' is openly acknowledged. But, in point of fact, is there such a warrant for either of them? There is not. The utmost that can truthfully be said is typified in Professor Ward's remarks upon mass-values:

Over against this bewildering variety the one definite supposition of constancy, in itself the simplest, is borne out by the very small fraction of the world that we can imperfectly measure.¹

How 'imperfectly,' as regards matter, is well expressed by Dr. Keeling:

It is held that the quantity of matter can neither be added to nor diminished, however much its form may change: therefore for the materialist, since it has no beginning and no end, matter is eternal. Now, it seems certain that the correct proposition is this: Matter is indestructible *under the conditions which at present exist*. The little we know of its remote history, and our complete ignorance of what may happen to it in the future, clearly forbid us to assert that *under any conditions whatever* matter is imperishable. Such a statement may be philosophy, it is not science.²

The same writer reminds us also that, according to Professor Dolbear, any proposition to the effect that matter cannot be created or annihilated, ought always to be modified by adding—'by physical or chemical processes at present known.' All latest researches into the nature of matter, moreover, tend to emphasize the following:

Most of our information as to constancy in any given quantity of matter has been gathered in the course of physical and chemical experiment by extremely careful weighing; but as the same

¹ *Naturalism and Agnosticism*, i. p. 90.

² *Some Ways of looking at Matter*, p. 10 (Pawson & Brailsford, Sheffield).

authority (Professor Dolbear) points out, 'thousands of millions of atoms' might be added or abstracted in a minute fragment of matter, the addition or removal of which would not be indicated by the most delicate balance hitherto constructed.¹

Even more certain are the limitations attaching to the conception of the 'conservation of energy.' True, it has become quite a commonplace of modern science to affirm that 'the amount of energy in the material universe is constant.' But even if we waive for the moment the fact that Haeckel's monism includes under the material universe all 'the higher mental activities of the mind of man,' Mr. W. R. Boyce Gibson is quite warranted in his summary of the case :

Now, in the first place, this statement is far from being the record of an ascertained fact. What physicist has ever established an equation between the whole energy of the universe at any time, including the energies of all the stars of heaven and all the cells of all living bodies, and its energy at a subsequent moment of time? No physicist, we may safely say, has ever dreamt of such an equation. The equation of constancy is in fact a most unjustifiable extension *in indefinitum* of the well-known equation of equivalence. The fallacy involved in this extension is picturesquely exposed by Dr. Ward. 'Those who insist that the quantity of this energy in the universe *must* be constant seem to me in the same position as one who should maintain that the quantity of water in a vast lake must be constant merely because the surface was always level, though he could never reach its shores nor fathom its depth.'

This remark leads us on at once to our second point, to wit, that the so-called principle of the constancy of energy has not even the hypothetical necessity of a regulative principle of physics. The 'constancy of energy,' as a postulate of physics, comes indeed to nothing more than this: 'Given a finite known quantity of physical energy, energy, that is, which has its mechanical

¹ Ibid. p. 11.

equivalent, then if that energy be measured after any transformation, it must be precisely equivalent in amount to the original quantity.' There is no attempt to deal with the whole amount of energy in the universe at any time, a perfectly indefinite, incalculable quantum.¹

How unspeakable and illimitable, moreover, are the complications which our latest theories of matter promise to add to these considerations, may be perhaps gathered, to some small extent, from such facts as the following:

The amount of energy locked up in a gram of innocent-looking radium bromide, and appearing as heat on the disintegration of the whole gram, calculates out to about one billion calories—a prodigious quantity of energy. This energy is not the total amount contained in the radium. It is only that portion which becomes manifest on the decomposition of the radium into its disintegration products. If the gram of radium could be wholly dissociated into corpuscles, the energy let loose would greatly exceed the above amount.

Hence it is impossible for us to come to any other conclusion than that there is locked up in all the so-called 'elements' of matter, an enormous store of energy which, except in those elements of heaviest atomic weight like radium and thorium, remains latent and unknown.²

When, therefore, we read that—

Haeckel is fully justified in taking from physics and chemistry his thesis of the unity of matter. No man of science disputes it, and it is a purely scientific question. With regard to the unity of force there is even less difficulty³—

we are obliged to reply, that the alleged certainty and actual ambiguity of such a would-be summary

¹ *Personal Idealism*, pp. 151, 152.

² Professor Duncan, *The New Knowledge*, p. 176 (Hodder).

³ *Haeckel's Critics Answered*, p. 26. On the previous page Mr. McCabe—after managing, *suo more*, to bring into a few sentences allegations of 'dust-throwing,' 'too ludicrous to analyse in detail,' 'the foolishness of

are both 'gravely misleading.' The asserted 'unity' is irrelevant; the assumed infallible exactness is untrue. The real question is whether science warrants the dogmatic formulation of the 'law of substance' as 'the supreme and only cosmological law'; one answer to which, at least, is that the establishment of such a dogma by physical proof is now, and apparently ever must be, beyond the possibility of physical science altogether. Professor Poynting's statement of the principle of law in general, is not only a better specimen of science in its genuine modesty, but applies to each of the alleged laws assumed to blend in the 'law of substance,' as well as even more emphatically to the blending:

Our descriptions are embodied in laws, which are neither more nor less than statements of similarities or likenesses which we have observed in the happening of events. These laws are not fixed—are not promulgated by nature herself. They are *our* descriptions of the likenesses which we think we observe when we watch her actions. They are our accounts, not hers, our accounts if you like, of her ways and habits.¹

4. So too when we come to the application of the laws of the conservation of matter and of energy. Let us take the latest putting of the case by one competent to speak. Says Professor Duncan:

Now, governing matter in all its varied forms there is one great fundamental law which up to this time has been ironclad in its

the whole episode'—remarks that 'Mr. Ballard has no more doubt than I have of the unity of matter, which is the only serious point in question.' To which I can but reply that both statements are alike unwarranted. For his conception of matter is inseparable from the Monism which I here utterly oppose. And how far it is from being the only serious point in question, any one with eyes can see.

¹ *Hilbert Journal*, July, 1903, p. 729.

character. This law, known as the 'law of the conservation of mass,' states that no particle of matter, however small, may be created or destroyed. The sum of matter in the universe is x pounds—and while it may be carried through a myriad forms, when all is said and done, it is just x pounds.

In the foregoing statements we have used the conceptions of the older science, and indeed the current conceptions; but to say that throughout all time we never should be able to destroy or create matter, or to say, indeed, that matter is not, to some extent, being created and destroyed to-day, would be to run the risk of profound error. All we can say, to-day, is that we cannot do it. If creation or annihilation is actually going on, we are mere spectators and stand in no causal relation.—Matter is but a stepping-stone to energy, here and away, through one form to another and from one body to another, infinitely restless, constant only to one thing—its total quantity. Concerning the dictum of current science that it is impossible to create or destroy it, we ought to make the same provision that we did with matter, that while it may not be for ever and for ever indestructible and uncreatable, and while it may be even now suffering annihilation, we have no control over it. The doctrine of the conservation of energy is receiving some hard knocks nowadays, and whether or not it is weakening will be for the future to determine.¹

The reasons for such scientific modesty are real and manifold. For, altogether apart from the physical revelations upon the threshold of which we seem to stand, in the light of radio-activities and electrons, and waiving (though only for the moment) the no less promising possibilities of results from modern psychical research, we have even now to reckon with not only the nine forms of interchangeable energy enumerated by Professor Duncan—kinetic, gravitative, heat, elasticity, cohesion, chemical, electrical, magnetic, radiant—but also with mental energy. For this latter, although quite distinct in kind from

¹ *The New Knowledge*, pp. 3, 6, 7.

physical, is related to it in so mysterious yet real a fashion, that it is nothing less than the rashness of unscientific presumption to deny its influence upon the law in question. It would be easy to fill pages with illustrations of this. Let us listen only to suggestions from a psychologist and a physiologist whose competence no one can question. In the *Encyclopaedia Britannica*¹ Professor Case writes :

It is true that from the conservation of energy, or rather quantivalence of energy, whenever a body does work we can deduce that probably a change is produced : thus heat, though not apparently, is really a change either in motion or configuration. But this becomes less certain in proportion to our ignorance of the changes in question, and in any case does not prove that there are no other changes produced. Now, changes in a nervous organism are conspicuous instances of such uncertainty. What is a nervous process, and how far is it a change in motion or configuration ? What is a sensation ? Is it a nervous process or not, or partly so and partly not ? In our uncertainty about the nature of these changes, it is open to us to *believe* in the conservation of energy and yet *recognize its limits*.

We have seen already how, according to Haeckelian principles, the whole matter of mental energy is very simple :

Mind is the physiological function of the phronema—the most perfect action of a dynamo machine, the highest achievement that we know anywhere in nature. Millions of psychic cells, or neurona, are associated as special thought-organs (phroneta) at certain parts of the cortex, and these again are built up into a large harmonious system of wonderful regularity and capacity. Each phronetal cell is a small chemical laboratory contributing its share to the unified central function of the mind, the conscious action of reason.²

¹ Article 'Metaphysics,' p. 661.

² *Wonders*, p. 342, partly quoted on p. 185 above.

That is to say, just as a certain amount of chemical salt put into a jar will yield so much measurable electricity, so much thought will also result from so many phronetal cells, put into a certain chemical condition by a certain quantity of food. Such a conception may serve the purpose of previously determined Monistic theory, but it is neither in accord with science nor with fact. This has been sufficiently pointed out above. In regard to matters of physiological-psychology Dr. Alexander Hill, Master of Downing College, Cambridge, is, one may submit, better qualified even than Professor Haeckel to give just judgement.¹ It seems worth while to repeat, with the help of italics, what we have already noticed, as being a plain answer to a crucial question.

I was asked whether the cells in the brain were capable of discharging ideal impulses. Now, the curious thing about the study of the anatomy of the cortex is that the more we go into it, the more we are inclined to *give up the notion that the cells have anything to do with the mental processes*. We cannot find any cell that has any such use as that suggested, viz. that it is a kind of little office in which an ideal impression is originated and from which it is discharged.

If this be so, there is an end of the 'dynamo machine' for 'producing thought,' and consequently of the much-vaunted 'rigid application of the law of substance to the higher mental processes of the human brain.'

Into the endless and complicated questions concerning the exact relation between mental and physical energy, it is neither possible nor necessary here to

¹ v. p. 185 above,

enter further. There is, however, no scientific reason for rejecting Dr. Hill's further pronouncement that—

All actions may be performed in the absence of volition, but when there is consciousness of sensation there is also a power of selecting sensations, and therefore of determining the combination of nerve currents which shall flow out in action.¹

For who will venture to limit, either in the name of physiology or psychology, the possibilities of the creation of energy here suggested, through the influence of volition?—unless the Monist is prepared to identify absolutely psychical with physical energy, and then affirm that the sum total of human *thought* in the world must remain ever the same; which position scarcely calls for refutation.

5. Furthermore, even upon Haeckel's own showing, the vaunted 'law of substance' is itself no law at all. It is always a *mere term* to cover two other laws which are always as distinct in conception and in action, as mass and force, or matter and mind. The absolute and unchangeable supremacy, therefore, of this purely hypothetical fusion of the two into one, is necessarily invalid if either, let alone both, of the components is in the least degree questionable. That modern science excludes all possibility of such questionableness is, we see, an utterly unwarranted attitude. The 'theory of the universe' which depends entirely upon such an assumption, is but a Monistic 'myth.' Professor Poynting has well said that 'as our study widens, so too does our perception of likenesses widen, and new physical laws

¹ *Transactions of Vict. Inst.* No. 101, p. 47.

are ever being formulated.' By way of illustration he calls to mind that the simplicity of Boyle's law in regard to gases, which 'sufficed for nearly two hundred years after its first statement, when more exact means of measurement were devised was found to be an inexact and so far an untrue description.'¹ How far from absolute and infallible exactness are those measurements upon which these alleged 'laws' depend, is manifest upon the least reflection. It seems likely to become more manifest. Professor Duncan writes in accord with latest developments when he says:

Is the law of the conservation of mass the expression of an absolute truth? It does not seem so, at any rate in the case of radio-active bodies. We have learned that the mass of a corpuscle is dependent upon its velocity, and this indicates that the mass of the radium-atom before its explosive rearrangement would not be the same as the mass of the products of its disintegration, for the velocities of its corpuscles have changed. This can only be determined by looking for a change of weight in a quantity of radium kept under such conditions that the products of disintegration cannot escape. It will take time to determine this question.—Heydweiler claims that copper sulphate and water do not have the same collective weight before and after solution. Wallace claims that a mass of water does not have the same weight before and after freezing. Altogether, both from theoretical and experimental considerations, the absolute validity of the law of the conservation of mass is certainly challenged.²

6. But more than this. The two statements of Haeckel upon whose dogmatic absoluteness his monistic system necessarily depends, cannot be brought into logical coherence. For if the 'law of substance' be as absolute as is asserted, it connotes

¹ *Hibbert Journal*, July, 1903, p. 730.

² *The New Knowledge*, p. 249.

of necessity not only a 'unity' of matter and energy, but a limited unity. That which can neither be increased nor diminished is assuredly finite. Yet elsewhere,¹ in the plainest of plain terms, Haeckel avers that 'the universe, or the cosmos, is eternal, infinite, and illimitable.' Now, as Mr. Mallock says,² 'infinity upsets our logic no less than eternity.' If the law of substance be 'the supreme and only cosmological law,' then certainly the universe is not infinite. If, however, we are to accept its infinity, there is assuredly an end of the 'supremacy' of a law whose very essence is finiteness. The Monist must take his choice. Our only conclusion here is that, in this as in many other respects, the sledge-hammer blow of Haeckel's assertions smashes only his own system. As a present 'working hypothesis,' there may be no scientific objection to the two laws of the conservation of mass and of energy; but as to 'the monism of the cosmos which we establish upon the clear law of substance,' proclaiming 'the absolute dominion of "the great eternal iron laws" throughout the universe,' it is at least as unwarranted as any syllogism whatever in which the conclusion measurelessly exceeds the premisses.

II. Let us, however, for the time being, accept the working hypothesis at its fullest, and proceed to inquire whether the alleged consequences necessarily follow. With manifest gusto, almost equal to that of his English champion, Professor Haeckel asserts that

¹ *Riddle*, p. 5, *etc.*

² *Religion as a Credible Doctrine*, p. 236.

this 'fundamental law shatters the three central dogmas of the dualistic philosophy—the personality of God, the immortality of the soul, and the freedom of the will.' Two of these we have considered at length, so that it is only necessary to meet these assertions here in succinct summary.

1. Accepting the validity of the two laws in question, and their hypothetic blending into one, we may still affirm that this does not at all 'rule out,' let alone 'shatter,' the personality of God. And for these reasons.

(i) Without God, neither of these two principles can be rationally accounted for. Their unification into the 'law of substance,' is sufficiently explained as being the opinion of Haeckel and the fundamental necessity of the 'monistic system.' But in so far as the conservation either of mass or of energy is a 'law,' and not a mere sequence which seems to us to be invariable, adequate cause for it must be acknowledged. Here, however, as in every such case, the logic of John Stuart Mill applies when he declared that 'the laws of nature do not account for their own origin.' Nor can any better definition of law be either desired or formulated than that of Von Baer, viz. 'the permanent expression of the will of a creative principle.' Thus the 'law of substance,' in the degree in which it is a permanent natural principle, 'shatters' the belief in the will of God as personal, just as much as, and no more than, a house 'shatters' the foundation upon which it rests, or a ship the ocean upon which it sails.

It is not in the nature of law either to create or to maintain itself. Both the creation and the maintenance of law are dependent upon a sufficiently potent will external to itself.

(ii) 'The second law of substance,' according to Haeckel, is the 'cosmic law of evolution.' 'This theory,' we are told, 'has now become the sure foundation of our whole world-system.'¹ If this be so, then the first task of his 'monistic system' is, out of the 'law of substance,' *per se*, to produce the law of evolution. This, however, it does not and cannot do, on any principles of reason. The nearest approach to it we have in Haeckel's 'theses relating to the constitution and evolution of the cosmos.'

Substance is everywhere and always in uninterrupted movement and transformation; nowhere is there perfect repose and rigidity; yet the infinite quantity of matter, and of eternally changing force, remains constant. This universal movement of substance in space takes the form of an eternal cycle, or of a periodical process of evolution.²

Now here, it is manifest at a glance, we have simply a string of assumptions and assertions, as incoherent as a rope of sand. 'Uninterrupted movement' and 'transformation' are calmly and conveniently taken for granted; 'constancy' is illogically predicated of an 'infinite quantity of matter'³; and 'universal movement takes the form of a periodical process.' May be. Monistic theory takes many forms. But the taking does not say whence, or

¹ *Riddle*, p. 85.

² p. 86.

³ Seeing that an 'infinite quantity' is itself a contradiction in terms.

with what right, they are taken. In the present case, it is but a philosophical impertinence, whose cool hugeness staggers one, to assume that a 'movement,' without any cause whatever, becomes a 'process.' To say nothing of the utter helplessness, logically, of any suggestion of evolution without a corresponding involution, the writer who can treat 'movement' and 'a process' as synonyms, has small claim indeed to be accounted a philosopher. One might similarly suggest that to talk of the 'conservation, or persistence, of force' (*pace* Mr. H. Spencer) is to lose all right to speak as a physicist. To affirm that the 'quantity of eternally changing force remains constant,' is at the least a questionable, ambiguous, and indemonstrable assertion.¹

We know, however, what Mr. Spencer means when he says that 'the phenomena of evolution have to be deduced from the persistence of force.' But Professor Ward's comment upon this acknowledgement merits special attention :

By 'force' Mr. Spencer means, among other things, energy. Now, I think it is quite clear that, so far from accounting for all the phenomena of evolution, the doctrine of the persistence of

¹ Hereupon Professors Stewart and Tait say: 'As Professors of Natural Philosophy we have one sad remark to make. The great majority of our critics have exhibited almost absolute ignorance as to the proper use of the term force, which has had one and only one definite and scientific sense since the publication of the *Principia*. And the modern abuse of the word is more outrageous alike to science and to common sense than would be the attempt to assign the height of a mountain in acres! For the absurdity does not end even here. We have as yet absolutely no proof whatever that force proper has objective existence.'—*Unseen Universe* (9th edn.), pp. xxiv., 104.

energy alone will not account for a single one. The celestial, organic, social, and other phenomena, which make up what Mr. Spencer calls 'cosmic evolution' are so many series of qualitative changes. But the conservation of energy is not a law of change, still less a law of qualities. It does not initiate events and furnishes *absolutely no clue* to qualitative diversity. It is entirely a quantitative law. When energy is transformed there is precise equivalence between the new form and the old; but of the circumstances determining transformation and of the possible kinds of transformation the principle tells us nothing.¹

(iii) Thus we may truly say that the vaunted 'supreme and only cosmological law of substance' not only gives no account of itself, and no account whatever of the second great law of evolution, but, in point of fact, no account of anything at all. It simply affirms that according to two conjoined hypotheses, if there be somehow brought about such a measureless series of transformations as constitutes the 'cosmic evolution' of Professor Haeckel and his co-monists, the quantity of matter and energy employed in such transformings remains unaltered by the process, be it ever so vast and complex. Such an affirmation, it cannot but be observed, assumes everything, and gives us a rational or scientific cause for nothing.

(iv) We have examined above the equally cool, curious, and absurd assertion, that 'necessity' does everything that 'cosmic evolution' requires. All we need ask, in addition, is whether the 'law of substance' contributes in any way or degree to rescue such a suggestion from its native inanity.

¹ *Naturalism and Agnosticism*, vol. i. p. 213.

We are told that—

Professor Haeckel took from the physics of his time when he wrote, and built into the structure of his system the unity of matter and force, the indestructibility of matter and conservation of energy, and the evolution of the ponderable out of imponderable matter, and its natural aggregation by gravitation into nebulae and solar systems. Monism can easily accommodate itself to any rectification of the details of these theorems.¹

The ease with which any 'system' which has swallowed the 'camel' of 'necessity,' can dispose of the 'gnats' of detailed corrections, will surprise no one. But, we must point out, it is the validity of the whole foundation, not the 'rectification of details,' which has to be considered. No doubt, to Monistic minds, the 'evolution of ponderable out of imponderable matter' is a mere trifle. Others, however, who cannot but claim equal sanity and sincerity, will be disposed to put, with Mr. Mallock, some pertinent inquiries.

Whilst the cosmic vapour is a substance possessing a structure, and comprising apparently a variety of chemical elements, the ether, as we have seen, is structureless, homogeneous, continuous, the same always and everywhere. Why then, if it tends to condense into ponderable matter at all, does it tend to condense in one place more than any other? How do the atoms which result from its condensation acquire that variety of character to which their subsequent combinations are due? In a word, how does absolute simplicity resolve itself into specific complexity? The scientific thinker will no doubt beg us to remember that matter is merely one aspect of mind; and will say that in terms of mind, though not in terms of ether, we can imagine an answer being given, though unable ourselves to give it. But *if matter and mind are really two aspects of the same thing*, to imagine such an answer as this is *the very thing we cannot do*.

¹ *Haeckel's Critics Answered*, p. 34.

Why the simple, homogeneous, continuous, infinite ether should take to condensing itself in certain particular places, or why it should take to condensing itself at all, is, at bottom, the same question as the question why God should have created the universe when His existence had from eternity been absolutely perfect without it.¹

The condition of mind which can imagine that a valid answer to the above, is found in the avowal that 'force always acts uniformly, always takes the same direction,' must be given up as indescribable.

(v) As a matter of fact, such a doctrine of 'necessity' is, in essence, nothing more than the ascription of everything to chance. The 'fortuitous concurrence of atoms' is ostentatiously pushed out at Monism's front door, to the accompaniment of many trumpet-blasts of scientific superiority; whilst the fortuitous—because utterly unaccounted for—direction of each several atom to its position and function, with a view to evolution, is meekly welcomed (or rather, neatly smuggled) in at the back. Nor does it in the least relieve the situation to say that 'Haeckel has explained' the sense in which he says that 'neither in the evolution of the heavenly bodies, nor in that of the crust of our earth, do we find any trace of a controlling purpose—all is the result of chance.'² For what does it come to? The term

¹ *Religion as a Credible Doctrine*, p. 234, 235.

² On this see an able chapter in Mr. Mallock's latest work *The Reconstruction of Belief*, pp. 161-82. Haeckel's champion, we have seen, waxes indignant at the imputation: *Haeckel's Critics Answered*, pp. 71, 72. Yet on the very same page we find his own italics employed to emphasise this precise idea. 'To suppose that this process should *chance* to culminate in the appearance of man is said to be incredible.' True,

is retained, we have already heard, to express 'the simultaneous occurrence of two phenomena which are not causally related to each other, but of which each has its own mechanical cause independent of that of the other.' But if there be no causal relation, and no guidance, the 'simultaneous occurrence' of two unrelated phenomena is nothing but chance, phrase it how we will.

Yet we have Haeckel himself insisting that 'everybody knows that chance, in this monistic sense, plays an important part in the life of man and in the universe at large.' What, then, is this 'monistic sense'—the 'simultaneous occurrence of two phenomena' when there is absolutely no direction of either—but the 'fortuitous concourse of atoms'? 'That, however,' continues Haeckel, 'does not prevent our recognizing in each "chance" event, as we do in the evolution of the entire cosmos, the universal sovereignty of nature's supreme law, the

it is. But if it be so credible, as is here insinuated, why profess such horror at the essential word? Especially when, by the same writer, the development of the brain (p. 60) is attributed to 'a *chance* variation in the use of the limbs.' When, moreover, he goes on to say (p. 74), 'It seems, then, that the initial difficulty to the teleologist is insuperable. He cannot give us a shadow of proof of his assertion that natural forces are erratic,' one is dumbfounded at such a sentence from any sincere and sensible writer. No teleologist, living or dead, has ever made such an assertion. Can any honest man help seeing that in such a connexion 'erratic' is utterly irrelevant? Force, here as elsewhere, is taken as equivalent to energy. There is no conception of direction in it. There can be none, until it is impressed upon it from outside itself. An 'erratic force' would be, and would *only* be, a force *which of itself deviated from the direction impressed upon it*. The relevant question is not whether it can or will do this, but whence it obtains the direction without which it can accomplish no evolutionary result at all.

law of substance.' But what does such 'sovereignty' amount to? This—and nothing more: that when certain 'chance' phenomena occur, the quantity of matter and energy in the cosmos remains unaffected by the ensuing transformation. May be—or may not be. But this *does not in the least affect*, let alone 'shatter,' the theistic position. The demand of reason for a personal God, issues from the irrationality of ascribing to chance, or necessity, that manifest order in the cosmos without which it would not be a cosmos, but with which it is necessarily the very antithesis of chance-derived chaos. With this the 'law of substance' has nothing whatever to do.

(vi) Neither is it of any more avail when it seeks to maintain the 'brilliant pyknotic theory of J. C. Vogt,' which Haeckel tells us is 'indispensable for a truly monistic view of substance.'¹ For whilst nothing is easier than to talk of 'the evolution of ponderable out of imponderable matter, and its natural aggregation by gravitation,' who does not see, even apart from the difficulties pointed out by Mr. Mallock, that this is nothing more than a double assumption, as huge in itself as convenient for Monism, but utterly unattributable to the 'law of substance'? This 'supreme law of nature' is simply no substitute at all for that directive principle which is, indeed, most 'naturally' found in the will of a personal God, but without which, in some form, evolution is unworkable and the cosmos unthinkable. The assertion of 'constancy' in the 'quantity' of matter

¹ *Riddle*, p. 78.

and of energy, any one must surely see, offers no explanation whatever of any theory of the development of matter, pyknotic or otherwise, into such a world as we have around us and within.

(vii) To 'rule out' the thought of God, moreover, the 'law of substance' must supply some better account of the wonders and harmonies of the cosmos than is done by theistic teleology. This, indeed, it claims to do by means of thorough-going 'mechanicism.' But two things here demand attention. First, the suggestion that a mechanically self-developed cosmos is more rational than one teleologically developed, is in itself amazing. It is, in fact, self-contradictory, for the former necessarily involves the latter.¹ And, secondly, even if the acknowledgement of 'mechanicism' as a principle of nature did tend to lessen the necessity for a supreme will, there is nothing in the 'law of substance' to lead to such 'mechanicism.' Constancy in quantity is utterly unrelated to mechanicism as a method of development. So that here, once more, as in other respects, this reiterated 'sovereignty of nature's supreme law'

¹ See testimonies of Weismann and Von Hartman, p. 263 above. Mr. Mallock has well said—'Thus the very science which, as expounded by Spencer and Professor Haeckel, has oppressed religious thought from the days of Darwin onward, which is denounced by its enemies as the grossest form of materialism, which is in reality the strictest form of determinism, and for all practical purposes is the completest form of atheism, is found to hatch itself, under the incubation of its own principles, into the re-affirmation of a Power to which, since it feels and purposes, no other name is applicable than that of a living Deity.'—*Reconstruction of Belief*, p. 203.

leaves untouched, much less 'shatters,' the reasons for Christian theism.

2. It is equally ineffective as regards the freedom of the will, in spite of all Haeckel's strong allegations to the contrary. It may sound impressive to talk loudly about the absolute dominion of 'great eternal iron laws throughout the universe'; but not only is such an expression quite unwarranted in regard to the 'law of substance' itself, it is quite inapplicable, and therefore irrelevant, in regard to the freedom of the will. The late Professor Romanes has well said that—

It often happens that an elaborate structure of argument, which is perfectly sound and complete upon the basis furnished by a given hypothesis, admits of being wholly disintegrated when the fundamental hypothesis is shown to be either provisional or untrue.¹

No more marked instance of such disintegration could be imagined than the case before us. Granted Haeckel's premisses—a 'hylozoic, matter-force-reality,' with the necessary consequence that mind is nothing more than 'the function of the phronema,' so that for all scientific purposes it may be treated as mere molecular motion—and the 'iron laws' may well get a grip which would reduce a man to an automaton. But these premisses are precisely the element in the case which we make no apology for pronouncing to be untrue. To quote Romanes again:

We have first the general fact that all our knowledge of motion, and so of matter, is merely a knowledge of the modifications

¹ *Mind and Motion and Monism*, p. 131.

of mind. Therefore if we say that mind is a function of motion, we are only saying, in somewhat confused terminology, that mind is a function of itself. Such I take to be a general refutation of materialism. To use but a mild epithet, we must conclude that the theory is unphilosophical, seeing that it assumes one thing to be produced by another thing in spite of an obvious demonstration that the alleged effect is necessarily prior to its cause.¹

The immediate reply of Haeckel, especially as represented by his thorough-going English champion, is, of course, an indignant repudiation of materialism. We will estimate the truthfulness of this avowal presently. For the moment let it stand. But it no sooner stands than the assertion we are considering falls. If 'monism does not deny the existence of spirit,'² and 'matter cannot exist and be operative without spirit, or spirit without matter,' then all talk about the absolute dominion of the great 'eternal iron laws' is here ruled out of application. For, as Professor Bain himself acknowledges:

We are in this fix: mental states and bodily are utterly contrasted; they cannot be compared; they have nothing in common except the most general of all attributes—degree and order in time; when engaged with one, we must be oblivious of all that distinguishes the other. Extension is but the first of a *long series* of properties all present in matter, all absent in mind.³

But if this be so, if the physical be not only distinct from the psychical, but so different that the two are incomparable, incommensurable—and

¹ *Mind and Motion and Monism*, p. 21.

² *Haeckel's Critics Answered*, p. 18. We shall see in a moment that it does.

³ *Mind and Body*, pp. 125, 135.

that much every one who is not a materialist will concede—by what right is it assumed that such physical principles ('working hypotheses') as the laws of conservation of matter and energy, apply with equal rigidity to so entirely psychical a reality as the freedom of the will?

But does not this term 'reality' here beg the question? No. For, as Professor Poynting well says,¹ 'I hold that we are more certain of our power of choice and responsibility than of any other fact, physical or psychical.'² It is a foundation fact of consciousness. Yes, but—

Successive states of consciousness are not related as successive transformations of energy. Whether we adopt a dualistic or a monistic theory as to the essence of the conscious ego, it is certainly true that states of consciousness are an order of phenomena entirely disparate from those which are recognized by the physicist. Our states of consciousness are not terms intercalated in the series of cerebral changes. The states of consciousness associated with the cerebral changes are phenomena of a different order. They neither add to nor subtract from the energy of the cerebral movements. Neither volition nor any other mental state has a quantitative relation to physical energy. The recognition of the absolute disparateness of the two classes of phenomena is essential to sound thinking in regard to them.³

Or, to quote again from Professor Poynting, seeing that he speaks with authority:

While, then, the scientific method still applies in the psychical region, in so far as it consists in classing together likenesses and unlikenesses and in recognizing and separating unlikenesses,

¹ *Hibbert Journal*, July, 1903, p. 743.

² And this Mr. McCabe himself concedes: *Haeckel's Critics Answered*, p. 118.

³ Dr. Rice, *Christian Faith in an Age of Science*, pp. 294-96.

the material dealt with is utterly different from that in the physical region, in that no similar quantitative measurement can be made, and no explanation in the sense of complete reduction to types of known behaviour appears possible. It has often been pointed out that the will may act as a guiding power, changing the direction of motion of the atoms and molecules in the brain, and we can imagine such a guiding power without having to modify our ideas of the constancy of matter or the constancy of motion, or even the constancy of energy.

I do not lay any great stress on this conception of the will as a guiding power. It is better to face the situation boldly and claim for our mental experience as great certainty as that which the physicist claims for his experience in the outside world. If our mental experience convinces us that we have freedom of choice, we are obliged to believe that in mind there is territory which the physicist can never annex. Some of his laws may hold good, but somewhere or other his scheme must cease to give a true account.¹

In the light of such a true summary of the case, we may know how to appreciate the bald assertion of Haeckel that 'the complicated phenomena of mind, as they are called (more especially consciousness), fall under the law of the conservation of substance *just as strictly as do the simpler mechanical processes of nature dealt with in inorganic physics and chemistry.*'²

The plain truth is that this wearisomely reiterated 'law of substance,' even if its actuality were con-

¹ *Hibbert Journal*, July, 1903, pp. 744-6—'Physical Law and Life,' by J. H. Poynting, D.Sc., F.R.S., Professor of Physics in the University of Birmingham.

² *Wonders*, pp. 342, 346, &c. The italics are mine, and may serve to direct attention to the worth of the indignant denial of materialism so often reiterated. It is all of a piece with many other statements such as the following: 'The fact of consciousness, and the relation of consciousness to the brain, are to us not less, but neither are they more, puzzling than the fact of seeing and hearing, than the fact of gravitation, than the connexion between matter and energy' (*Con-*

ceded, does not touch, let alone 'rule out,' the freedom of the will. This latter is one of the inevitable problems of personality, and neither of the two laws thus smuggled into one by Monism, can possibly affect personality, any more than an iron vice can grip an idea. Whilst, therefore, Professor Ward is entirely justified in affirming that 'it is plainly impossible to prove that the *phenomenal* energy in the universe is fixed in amount,'¹ still more is Professor Poynting when he declares:

Above all the choice of action which is implied in our attempt to realise an imagined future has no correspondent, no analogy whatever in physical actions. Our sense of responsibility when that choice is made is utterly unlike anything in the physical world. Every time an intention is formed in the mind and a deliberate choice is made, we have an event unlike any previous event. Freedom of will is a simple fact, unlike anything else, inexplicable.²

But to show the complete fatuity of the Monistic dictum herein, it is simply sufficient to define with accuracy the principle assumed. 'What then, after all, is 'energy,' and what does its 'conservation' involve? Two definitions, from competent sources, will suffice. 'The energy which a body contains—its *vis viva*—is its power of doing work.'³ 'This cause,

session, p. 111). Here a moment's thought suffices to remind us that 'seeing and hearing' are themselves only instances of 'the relation of consciousness to the brain'; that gravitation is not a fact of consciousness at all, but a working hypothesis concerning observed phenomena; and that the 'connexion between matter and energy' is not a demonstrated fact at all, but a pure assumption of unification to suit the convenience of Monistic theory.

¹ *Naturalism and Agnosticism*, ii. p. 76. For the data, see context.

² *Hibbert Journal*, July, 1903, p. 742, 744, cf. p. 168 above.

³ Professors Stewart and Tait, *The Unseen Universe*, p. 108.

this power to change the state of motion of a body, is energy.'¹ And 'the modern statement of the conservation of energy' is as follows:

In any system of bodies whatever, to which no energy is communicated by external bodies, and which parts with no energy to external bodies, the sum of the various potential and kinetic energies remains for ever unaltered.²

Is it, then, so incontrovertibly demonstrated that the human 'will' is a 'body,' or a 'system of bodies,' that the laws of conservation of substance or of energy *must* rule it '*just as strictly as* the simpler mechanical processes of inorganic physics and chemistry'? Such an assertion is pure assumption, the assumption is simply monstrous, and the 'monistic system' dependent upon it is a monstrosity.

The corresponding attitude in the moral realm, viz. that the freedom of the will—and therefore morality—is 'shattered,' whilst yet Monism affects superiority in morals, requires separate treatment.³

III. It only remains now to inquire whether there is any more truth in the allegation that the law of substance 'shatters' all hopes of human immortality. No doubt it would be so if dogmatic denunciation—as an 'irrational dogma' and 'a deplorable anachronism'—could effect it. Setting that aside, does the 'law of substance' add any objection to 'athana-tism' beyond those already met? On the contrary, it only serves to emphasize the manifest incomplete-

¹ Professor Duncan, *The New Knowledge*, p. 5.

² *Unseen Universe*, p. 114.

³ In another volume, shortly.

ness of the 'monistic system,' and to exhibit more vividly the futility of its struggle in the meshes of its own materialistic net. It neither does justice to the facts of human personality, nor does it really touch the essential problems of the case. One might as well claim to have demolished a house by knocking at the door, as to have 'shattered' the belief in immortality by asserting the 'law of substance.'

Consider once again Haeckel's own statement :

We now know that the light of the flame is a sum of electric vibrations of the ether ; and *the soul a sum of plasma-movements* in the ganglion-cells.¹

Now, apart from the falseness of the analogy between 'electric vibrations' and 'plasma-movements,' is not this an interesting avowal from one who indignantly repudiates materialism ? But how does the principle of 'conservation' come in ?

It is just as inconceivable that any of the atoms of our brain or of the energies of our spirit should vanish out of the world, as that any other particle of matter or energy could do so. At our death there disappears only the individual form in which the nerve substance was fashioned, and the personal 'soul' which represented the work performed by this. The complicated chemical combinations of that nervous mass pass over into other combinations by decomposition, and the kinetic energy produced by them is transformed into other forms of motion.²

And to cap this delightful exhibition of non-materialism, Shakespeare is quoted in the familiar form :

Imperial Caesar, dead and turned to clay,
Might stop a hole to keep the wind away.
O that that earth which kept the world in awe,
Should patch a wall to expel the winter's flaw.

¹ *Confession*, p. 113.

² p. 51.

It would be difficult indeed, to say whether greater injustice is done to poetry or to science, by such a quotation for such a purpose. Certainly science is not yet so hardened in question-begging as to assert roundly that the whole of 'imperial Caesar' was 'turned to clay.' Nor was Shakespeare so far gone in materialistic shallowness as to assume that it was the 'earth' alone, in 'imperial Caesar,' which 'kept the world in awe.' Such inanities were reserved for modern Monism, under the aegis of the 'law of substance.'

But it is manifest without further amplification, that the dogmatic avowal that such a 'conservation' as this 'shatters' the belief in immortality, not only wields a reed as if it were a hammer, but altogether misses its aim in the vehemence of its stroke. Whatever might be, under such circumstances, the fate of a Monistic automaton, man, rational, self-conscious,—as conscious of his freedom as of his personal identity—is not touched by it. The 'energies of our spirit' are *not* synonymous with the 'atoms of our brain'; the 'personal soul' is something more than the 'representation of the work of nerve substance'; and 'kinetic energy' is very far indeed from being identical with mental energy.

That, therefore, in man for which immortality is claimed, is no more affected by the 'law of substance,' than is the literary beauty of a poem, or the scientific validity of a thesis, by the quality of the paper on which it is printed. One cannot forget that even Mr. McCabe, with Haeckel's defence thus

vigorously in hand, writes: 'I can just conceive that the ponderable and visible structure of the brain may have a counterpart in ether. Who will say positively that this must decay when the visible brain does?'¹ Who indeed! It is a very interesting and pertinent question, though the author of the works which he so seeks to thrust upon the mind of this generation, answers it contemptuously enough. But if we credit the pupil here with more perception than his master, has the 'law of substance' any application to such a 'counterpart in ether'? This much at all events we have good reason to affirm—that if the human hope of immortality has no more serious obstacle to surmount, than this hypothetic blending of the conservation of mass and of physical energy, its 'shattering' is far too distant to give us any further concern.

IV. Upon the whole, then, we conclude that the unmeasured stress laid upon this 'supreme and only cosmological law' is doubly discredited. Its limitations are unscientifically ignored, and its scope is unwarrantably extended. Of the four characteristic sentences which are intended to be a conclusive summary—

Towering above all the achievements and discoveries of the century we have the great comprehensive 'law of substance,' the fundamental law of the constancy of matter and force. The fact that substance is everywhere subject to eternal movement and transformation gives it the character also of the universal law

¹ *Hibbert Journal*, July, 1905, p. 755.

of evolution. As this supreme law has been firmly established, and all others are subordinate to it, we arrive at a conviction of the universal unity of nature and the eternal validity of its laws. From the gloomy problem of substance we have evolved the clear law of substance ¹—

not one may pass unchallenged. The first simply gives a sounding name to an assumption far greater than the scientific—that is, exact ²—statement of the whole case warrants. The second bases upon this assumption an altogether unjustifiable inference. By no process of logic whatever, can a 'law of evolution' be deduced from the mere hypothetic blending of the laws of the conservation of matter and energy. The third attributes to the 'law of evolution' a dominion and a scope far beyond the evidence attained or attainable. The mechanical evolution of mind from matter, by means of a presupposed involution of mind in matter, is a pure hypothesis for the furtherance of Monism. The 'eternal validity' of nature's laws, is no more deducible from what we know concerning evolution, than the principle of evolution is from the 'law of substance.' No conviction to that effect can be rational, until adequate cause for such validity is suggested. Chance being abandoned, necessity is no such cause. For it must itself be justified—especially when the necessary conception of guidance is smuggled into it. Unless there be behind necessity an infinite Will, it is neither thinkable in itself, nor is it any more

¹ *Riddle*, p. 134.

² As a matter of fact, science knows nothing about any law of the conservation of '*force*.'

adequate as the cause of evolution, than the affirmation is logically adequate that all things are as they are—because they are.

So, from the unjustified evolution of a 'law of substance' which is anything but 'clear,' out of a 'matter-force-reality' which is anything but real, we come to face 'the gloomy problem of substance' itself.



VIII
SUBSTANCE

'No philosopher, with the possible exception of Aristotle, has been more lauded for his rigorous logic than Spinoza. In truth, few philosophers have included more fallacies in the exposition of their systems. The pages of the *Ethics* swarm with parallogisms, all veiled under the forms of rigid mathematical statement. His fundamental definitions, whatever verbal precision may belong to them, are, as regards the realities of being, unproved assumptions. His reasoning, from beginning to end, is vitiated by the realistic presupposition that the actual existence of a being can be inferred from the definition of a word.

'Pantheism, in resolving personal being into a mere phenomenon, or a phase of an impersonal essence, and in abolishing the gulf of separation between the subject and the object, clashes with the first and clearest affirmation of consciousness.'

FISHER, *Grounds of Theistic and Christian Belief*, pp. 64, 66.

'The statement "This scheme is faultless in its consistency and is therefore true," is not logic, it is an act of pure faith. This unlogical faith which permeates science is very plain to see. Why should there be a system at all? Why should we feel that the universe must be a perfect harmony? Why should there not be seventy or eighty elements as well as one only? The answer is not forthcoming. It is a matter of faith, bred in the bone of science.'

PROFESSOR R. K. DUNCAN, *The New Knowledge*, p. 255.

'There can be no controversy as to the reality of these "new departures" in nature. They are facts that cannot be resolved into one another, nor expressed in terms of one another. Closely interwoven as they are in their processes, they are yet absolutely distinct in their essence. In what sense, then, may we speak of the "continuity of nature"? Not, certainly, by attempting to reduce the higher of these orders of fact into the lower; but by positing a deeper and more ultimate unity out of which both orders spring. This unity must be conceived of, not as a bald and formless entity, but as unimaginably rich and potent; not as limited by the categories and antinomies of human thought, nor yet as altogether above our apprehension, but as Someone with whom we come into real relations through the phenomena of the Universe, while at the same time He transcends our highest conception and ideal of Him.'

E. GRIFFITH JONES, *The Ascent through Christ*, p. 34.

VIII

SUBSTANCE

LIKE other philosophers who have a preconceived theory to carry through, Professor Haeckel not seldom contradicts himself. Thus at one time he speaks of:

The great law of nature which, under the title of the 'law of substance,' we put at the *head of all* physical considerations was conceived as *the law* of 'the persistence of force' by Robert Meyer, who first formulated it, and Helmholtz, who continued the work.¹

Here, we note, there is no mention at all of the 'conservation of matter.' But at the commencement of this same chapter he says distinctly:

Under the name of the 'law of substance' we embrace *two supreme laws* of different origin and age; the older is the chemical law of the conservation of matter, and the younger is the physical law of the conservation of energy.²

Yet again we find him declaring,³ concerning the 'law of the conservation of *substance*,' that 'this belongs also to scientific articles of faith and could stand as *the first article* of our monistic religion.'

¹ *Riddle*, p. 82.

² p. 75.

³ *Confession*, p. 99.

It must remain for his co-monists to say which of these three is the 'supreme and only cosmological law.' In regard to that assumed blending, however, which we have just considered, he avers that—

Sceptical objections have a semblance of justification only in so far as they relate to the fundamental problem of substance, the primary question as to the connexion between matter and energy.¹

So that, whilst we entirely deny the accuracy of his assumption that 'only one comprehensive riddle of the universe now remains—the problem of substance'²—and dismiss as altogether unworthy the reiterated attempts at contumely in regard to Du Bois Reymond, under this head, it seems necessary to follow down to its final foundation the 'system' which vaunts itself as the only true and hopeful theory of the universe. Here will be found room, even more than in the case above quoted, for the reminder of Romanes, that 'an elaborate structure of argument becomes wholly disintegrated when its fundamental hypothesis is proved untrue.'

We have first to ask, what this 'gloomy problem

¹ *Confession*, p. 99.

² *Riddle*, p. 134. As a specimen of Monistic accuracy, or rather falsity, it is well matched by the assertion of his champion that 'modern apologists have been driven to deny that there is any real distinction between God and nature' (*Haeckel's Critics Answered*, p. 78), when there is not one single Christian apologist to be found who has ever said anything of the kind. Or the sneer (p. 36) at a 'straggling line of preachers and leader-writers in *The Methodist Luminary*'—when such a journal has never existed. If Monistic advocacy needs such helps as these, it is to be pitied.

of substance' means; then, we must face its implications; finally, we will investigate its truthfulness.

I. In face of Haeckel's vigorous affirmations, and the vivacious rhetoric of his champion, one wonders where the 'gloomy' element comes in. The sprightliness of perfectly self-satisfied assertion characterizes every statement of the Monistic case.

We adhere firmly to the pure unequivocal monism of Spinoza: Matter, or infinitely extended substance, and spirit (or energy), or sensitive and thinking substance, are the two fundamental attributes or principal properties of the all-embracing divine essence of the world, the universal substance.¹

This reads very simply, but unfortunately it is no more true to Spinoza² than it is either to science or to sense.

¹ *Riddle*, p. 8.

² We cannot, of course, branch off here into a full discussion of the philosophic views of the 'God-intoxicated' philosopher of Amsterdam. But the thoughtful reader may be asked to study the recent article by Professor McGiffert in *The Hibbert Journal* for July, 1905, and if possible also the summary by Professor Paulsen in his *Philosophia Militans*, pp. 139-46. Just a word or two will show his drift. 'Wir lesen die formel noch einmal: eine Substanz (das Weltwesen) hat zwei Substanzen als Attribute, die Materie und den Geist, für den man aber auch die Energie setzen kann. Seltsam, die Worte kommen uns aus dem Spinoza bekannt vor, aber die Verknüpfung! sollten sie durch den Setzer verschoben sein?—Wir fassen uns an die Stirn: wo sind wir denn nun eigentlich?—Materie, Ausdehnung, Bewegung, Kraft, Energie, Denken, Geist, das alles ist ein und dasselbe, bloß verschiedener Wörter für Dieselbe Sache!'

Dr. Adickes (*Kant contra Haeckel*, pp. 11, 12) moreover says: 'Daher halte ich mich bei solchen "Kleinigkeiten" der Terminologie nicht lange auf, sondern stelle nur fest, dass (1) die Gleichsetzung von Geist und Energie (Geist = die allumfassende denkende Substanz-Energie) durchaus nicht Spinozistisch ist, und dass (2) einer der wichtigsten Glaubens-artikel Spinozas; seine einheitliche unendliche Substanz (ens

Let us, however, mark well another and fuller statement :

This universal substance, this 'divine nature of the world,' shows us two different aspects of its being, or two fundamental attributes—matter (infinitely *extended* substance) and spirit (the all-embracing energy of *thought*). Every single object in the world which comes within the sphere of our cognizance, all individual forms of existence, are but special transitory forms—*accidents* or *modes*—of substance. These modes are material things when we regard them under the attribute of extension (or 'occupation of space'), but forces or ideas when we consider them under the attribute of *thought* (or 'energy'). Matter (space-filling substance) and energy (moving force) are but two inseparable attributes of the one underlying substance.¹

The form of monism which I take to be the most complete expression of the general truth is now generally called *hylozoism*. This expresses the fact that all substance has two fundamental attributes ; as matter it occupies space, and as force, or energy, it is endowed with sensation. Extension is identical with real space, and thought with (unconscious) sensation.²

And seeing that Mr. McCabe professes not only to defend but to expound his master, we may as well allow him to complete the delineation :³

Haeckel is convinced that matter and spirit are not two distinct entities or natures, but two forms, or two aspects, of one absolute infinitum) von Haeckel aufgegeben wird : aus beiden Gründen ist die Beziehung auf jenes System ganz unberechtigt und unangebracht. —Eben darum hat aber Haeckel's Anschauungsweise mit der Spinozas auch nicht die entfernteste Ähnlichkeit. Spinoza betont die Einheit und Einheitlichkeit seiner Substanz so sehr, dass die Einzeldinge darüber ihre Selbständigkeit verlieren. Bei Haeckel ist der letzteren Selbständigkeit so gross, dass von Einheit überhaupt nicht mehr die Rede sein kann.'

In the light of this criticism, which is equally cultured and, so far as religion is concerned, impartial, we may see what worth to attach to Haeckel's calm assumption—'All the changes which have since come over the idea of substance are reduced, on a logical analysis, to this supreme thought of Spinoza's.'

¹ *Riddle*, p. 77.

² *Wonders*, p. 84.

³ *Haeckel's Critics Answered*, p. 20.

single reality which he calls the fundamental substance. This one entity with the two attributes, this matter-force substance, is the sole reality that exists—to use a Greek word, the *monon*—the one nature that presents itself to contemplation in the infinitely varied panorama of the universe.

II. These quotations will amply suffice—in addition to what we have already considered above—to show what consequences to the philosophy of religion are involved in the Monistic conception of ‘substance.’ The result can only be a materialistic-mechanical pantheism. The Haeckelian ‘God’ is everywhere,¹ therefore the theistic God is nowhere. The atomic ‘soul’ is everywhere, therefore the human soul is nowhere. Everything is immortal, therefore no man is especially so. All is mechanism, therefore moral freedom is a delusion.

These consequences are not merely acknowledged, but loudly proclaimed by monists of this type. The attempt to father them all upon Goethe and Spinoza, we have seen to be entirely without warrant. Whatever amount of truth concerning the immanence

¹ ‘God is the infinite sum of all natural forces, the sum of all atomic forces and all ether-vibrations.’—*Confession*, p. 78.

² It may be well to quote just a couple of sentences from Professor McGiffert’s article mentioned above (pp. 712, 713). ‘In defending and interpreting Spinoza, Herder first undertakes to show that he was not an atheist. Says his Philolaus, “Spinoza may have erred in a thousand ways in his idea of God, but how readers of his works could ever say that he denies the idea of God, and demonstrates atheism, is inconceivable to me.” A little later Goethe himself, in a letter to Jacobi, wrote, “Spinoza does not prove the existence of God—existence is God—and while others find fault with him as an atheist, I should prefer to celebrate him as *theissimum et christianissimum*.”’

Professor McGiffert himself adds (p. 722): ‘There can be no doubt, it seems to me, that Herder’s interpretation of Spinoza which I have been

of God may have entered into Christian theology during the last half-century, there is no shadow of doubt that, in all these respects, the theism upon which it is based is utterly opposed to Haeckel's monism. All compromise being impossible, it only remains to show cause for refusing the main premiss from which such Monistic conclusions are drawn.

III. The following considerations point in such a direction.

1. Throughout all the pages of Haeckel's works, and those of his exponent, there runs the continual suggestion of *novelty*. One would think that his affirmations concerning such fundamental substance and its laws, had never been made before, and that his whole scheme of evolution had never been propounded until *The Riddle of the Universe* appeared. How entirely without warrant is such a supposition might be overwhelmingly proved by quotations. Take only the following as typical. A quarter of a century ago, in a Christian booklet, the materialistic position was summarized in these words:

No matter without force, and no force without matter ; matter and force are inseparable, eternal, and indestructible ; there can be

sketching, ascribing to God intelligence and will, moral determinism and self-consciousness, is much more nearly correct than the current interpretation of the day which represented him as denying all intelligence to God and subjecting Him to blind fate. Spinoza himself repeatedly rejects the latter position, and in at least one passage in his letters seems to imply his acceptance of divine self-consciousness :— "I conceive that all things follow with inevitable necessity from the nature of God, in the same way as it is conceived that it follows from God's nature that God understands Himself,"

no independent force, since all force is an inherent and necessary property of matter, consequently there can be no immaterial creating power; inorganic and organic forms are results of different accidental combinations of matter; life is a particular combination of matter taking place under favourable circumstances; thought is a movement of matter; the soul is a function of material organization . . . that inseparable compound without which, according to the materialistic theory, there can be nothing, and besides and beyond which there is nothing . . . all materialists agree that there can be no force without matter, as no matter without force.¹

Now let us ask what these popular translations of Haeckel, together with their further exposition and defence, have added to the above. In main principle absolutely nothing. And not only did this appear, in a popular issue, but some time before in a well-known Review, Professor Huxley, as we have seen, had declared that—

The materialistic position that there is nothing in the world but matter, force, and necessity, is as utterly devoid of justification as the most baseless of theological dogmas.²

This brings us back, as Professor Lodge suggests, to the middle of the nineteenth century—to say nothing here of the atoms of Democritus, or the monads of Leibnitz. It is little wonder that he adds concerning Haeckel's recent propaganda:

He is as it were a surviving voice from the middle of the nineteenth century: he represents opinions which then were

¹ Present-day Tracts, No. 17, *Modern Materialism*, by W. F. Wilkinson, M.A., pp. 15, 23, 25. I quote designedly from this as being one of the series so modestly characterized by Mr. McCabe as 'rubbish,' and I invite the reader to get this issue and judge for himself as to the grounds of such Monistic 'modesty.'

² *Fortnightly Review*, February, 1869,

prevalent among many leaders of thought—opinions which they themselves in many cases, and their successors still more, lived to outgrow.¹

There is here, therefore, no new scientific discovery or novel philosophic suggestion, but—when the fanfare of popular trumpeting has ceased and the dazzle of 'rationalist' rhetoric has died away—only fiascos familiar to all students, and meteors that have mocked us before.² This wonderful two-sided 'substance' is verily no revelation of a philosophic radium, but a recrudescence of the theories of Büchner, Tyndall, Clifford, and the like, which had 'their day' and might well now 'cease to be.'

2. Not only against the air of novelty is a protest justified, but equally against the atmosphere of assurance, amounting not seldom to the *assumption of axiomatic certainty*, with which this 'fundamental conception' of 'substance' is announced. Not without good reason has one of his critics³ said:

Haeckel, as we saw, knows nothing of philosophy. His ignorance permits him to assume without discussion that the only possible theory is monism, and his monism the only possible monism. He first assumes that he must be right, and then proceeds to show that he is right. When the proof is challenged,

¹ *Hibbert Journal*, January, 1905, p. 324.

² Mr. Wilkinson reminds his readers (p. 40) of the words of Isaac Taylor concerning 'the many ingenious theories' in his day 'propounded with the intention of laying open the world of mind by the help of chemistry, or any of those sciences that are properly called physical. Every theory resting upon this basis has presently gone off into some quackery—noised for a while among the uneducated and soon forgotten.'

³ Mr. Robert Christie, *Contemporary Review*, April, 1904, p. 504. This article richly merits careful study from all interested,

the theory to be proved is immediately produced as an axiom which it would be absurd to deny.

Thus we are told¹ that—

We must base our monistic system on the universality of the law of substance . . . its validity is quite independent of any particular theory of the relations of matter and force. If we avoid the extremes of materialism and dynamism, and conceive matter and force as inseparable attributes of substance, we have pure monism as we find it in the systems of Spinoza and Goethe. We might then substitute for the word 'substance' the term 'force-matter.'

We have estimated the reference to Spinoza and Goethe thus persistently dragged in.² But, on its own merits, can anything be at once more self-complacent and self-contradictory than such a statement? Monism rests on the 'law of substance'; this law of substance can rest on any physical theory—only the *sine qua non* is that it *must* conceive matter and force as 'inseparable!' And when we inquire concerning the scientific warrant for such a theory, we learn that it is reliable because it is a conception! Thus we are told categorically, 'Monism is for us an indispensable and fundamental conception in science.'³ Hence, conceive of the 'force-matter,' and you have Monism. Again, conceive of Monism, and you have the 'force-matter.' And so on. Well may Mr. Christie say, '*The Riddle* abounds with many brilliant instances of this sleight-

¹ *Wonders*, p. 463.

² 'Spinoza und Goethe werden regelmässig von Haeckel als Zeugen für seinen "Monismus" geladen. Ich fürchte sie würden sich beide, Goethe noch entschiedener als Spinoza, die Patenschaft verbeten haben; an Wagner hätte ihn Goethe als Gevatter verwiesen.'—Paulsen, *Phil. Mit.*, p. 153.

³ *Confession*, p. 19.

of-hand.' But that this should be trumpeted abroad as a new and superior 'philosophy,' is quite enough to justify the strong words of Professor Paulsen.¹

It is, however, strenuously supported by the translator and advocate. Those who most carefully mark the assertions made, will best appreciate its delicious 'modesty.'

We have thus so far simplified the visible universe as to detect beneath its kaleidoscopic variety the operation of one form of force and one form of matter, *from end to end of the universe*. The next and final step, as far as the unity of the *material* universe is concerned, is to bring together this matter and force themselves.

Dr. Haeckel *has done this by saying* that matter and force (or spirit) are the two fundamental attributes or principal properties of the *all-embracing divine essence* of the world, the universal substance.²

Thus the assistant has supplied the 'matter'—having ransacked the 'universe from end to end,' though how an 'infinite universe' can so completely be investigated by mortal brains, we are not informed—and the master has supplied the 'force.' He then utters a word, and the two are henceforth 'force-matter, inseparable.' It is very pretty; but it is neither science nor philosophy. The patent fact that, to quote Professor W. James, 'our science is a drop, our ignorance a sea,' appears to have escaped the notice of Monism's all-seeing eye.

3. Passing on, we enter into *perplexity*. For we are soberly informed that this 'force-matter'—or, as

¹ 'Ich habe mit brennender Scham dieses Buch gelesen.'—*Phil. Mil.* p. 187.

² *Haeckel's Critics Answered*, p. 26—italics mine.

Haeckel's champion prefers to call it, 'matter-force-reality'—

Is not an assumption, but the most laboured conclusion of Haeckel's system—not the base, but the apex of his pyramid ;¹ and a cultured critic is severely censured for not knowing this—'One would think that Haeckel would be consulted on the matter.' Well, we have consulted Haeckel, and his words seem clear enough—'We must base our monistic system, &c.,' as above. He himself thus avows that substance, and this particular 'force-matter substance,' is the base of his system. His champion declares it to be the apex. Which are we to believe? The only way of reconciliation appears to be to 'conceive' Monism as a pyramid resting upon its apex—and the apex itself resting upon a 'conception.' When, therefore, we are told that this 'matter-force-reality is the constructive starting-point of monism'—'the starting-point of that network of explanations, theories, and hypotheses which constitutes the monistic philosophy'—we are still perplexed. Is it the sign of a sound philosophy to build from the top, and commence its pyramids at the apex? Or, if the changed figure be insisted on, is not the 'starting-point of a network' a very ambiguous localization, and can it afford any support whatever to the accompanying meshes, unless it be somewhere fixed itself? The manifest truth of the case is, as above shown, that Monism builds its system from a 'conception,' then supports the conception by the 'system.'

¹ *Haeckel's Criticisms Answered*, p. 18.

4. It is but a short step from perplexity to *confusion*; and in confusion we are unquestionably landed, when we give due heed to what is by this monism set before us. In all the writings we are considering, no sentence is so true as the following:

A good deal of the infinite confusion that characterizes the conflicts of philosophers over their systems, is due to the obscurity and ambiguity of many of their fundamental ideas.

But, unfortunately, no 'system' illustrates this statement more notably than Haeckelian monism. All allowance must doubtless be made for variety of expression, and differing context, in four such works as these before us. Yet in order to illustrate the reason for Paulsen's cry of bewilderment—'We grip our brow, where in the world are we, after all?'—it is only necessary to set down, side by side, the various representations of this 'fundamental conception,' or 'apex' of Monism, as we find it on these pages.

(i) According to our monistic conception, *energy and matter* are inseparable, being only different inalienable manifestations of one single universal being—substance.—*Confession*, p. 17.¹

(ii) *Matter*, or infinitely extended substance, and *spirit* (or energy), or sensitive and thinking substance, are the two fundamental attributes or principal properties of the all-embracing *divine essence* of the world, the universal substance.—*Riddle*, p. 8.

(iii) This universal substance, this divine nature of the world, shows us two different *aspects* of its being, or two *fundamental attributes*—matter (infinitely extended substance) and spirit (the all-embracing energy of thought). Matter (space-filling substance) and energy (moving force) are but two inseparable attributes of the *one underlying substance*.—*Riddle*, pp. 76, 77.

(iv) The two fundamental forms of substance, *ponderable matter and ether*, are not dead and only moved by extrinsic

force, but they are endowed with sensation and will (though naturally of the lowest grade); they experience an inclination for condensation, a dislike of strain; they strive after the one and struggle against the other.—*Riddle*, p. 78.

(v) The constant reciprocity of the *two chief types* of substance, *ether and mass*.—p. 82.

These five will suffice as true types of all the rest. The italics may serve to point out the synonyms. The double task is to extract from each a meaning at once scientific and philosophical—seeing that Haeckel claims to write from both standpoints—and then to reconcile them with each other, and with truth. What, then, do we find?

(a) As to 'substance,' it is the 'all-embracing divine essence of the world'; the 'divine nature of the world.' But what is the significance of such terms? Does the 'world' mean this little globe, or the cosmos, or the Universe, with which Haeckel's advocate is so familiar 'from end to end'? The looseness of such terms as 'essence' and 'nature' might well be pardonable elsewhere; but in a system of philosophy which is to administer the *coup de grâce* to all others, such terminology is the more useless the more it is considered. And certainly if, as we are told,¹ the 'divine' is merely 'the infinite sum of all natural forces,' then such a phrase as 'the divine nature of the world' is but meaningless tautology. Then we learn, further, that this same 'essence' is 'the one underlying substance.' But underlying what? Phenomenal matter and energy? As

¹ *Confession*, p. 78.

Mr. Christie points out,¹ and we see here, 'substance,' in its 'two fundamental forms,' is said to be 'ponderable matter and ether,' which are certainly phenomenal. How, then, can substance underlie itself?

(b) But the formula above numbered (iv) is still more confusing. If 'substance' here means the same as in the other cases, we have the *ether* identified with *energy*, &c., which is a manifest self-contradiction. If however, we are here to understand by 'substance' matter only, we have been repeatedly assured that 'matter cannot exist apart from force,' so that 'force' in this case is identified with 'sensation and will'! Furthermore, as this is the lowest grade of matter conceivable, all matter, as such, has within itself the capacity for 'inclination, dislike, striving, struggle'!²

(c) Hardly less perplexing are the phrases used to describe the two which are said to be one. First, they are 'manifestations'; then, 'fundamental attributes'; then, 'principal properties'; then 'chief types'; then, 'aspects'; then, 'sides.' An interesting medley indeed, philosophically, if space permitted us to consider them. But it must suffice to call special attention to

¹ *Contemporary Review*, April, 1904, p. 499.

² Here Mr. McCabe comes in to save the situation by an exposition (*Haeckel's Critics Answered*, p. 54), part of which, of course, is to attribute 'curious and wilful misconstruction' to any one who differs from his hero. 'The sensation and will he attributes to atoms are obviously figurative.' Be it so. Only, in that case, 'obviously figurative' also, and nothing more, is 'his doctrine of the unity of all force and spirit.' But this is hardly what the writer generally wishes us to understand by the evolution of mind. If the final foundation of Monism is merely 'figurative,' *cadit quaestio*.

one only of these. Does the whole history of philosophy supply so significant a list of synonyms as this? 'Spirit'='force'='energy'='sensitive thinking substance'='moving force'='the all-embracing energy of thought.' If this is not confusion confounded, what is?¹

(d) Yet further. Is such a mental medley in any degree clarified by what we find in brackets in the above? 'Thought,' as a fundamental attribute of substance, is 'identical with (unconscious) sensation'? Here are verily three pretty knots to unravel. (i) 'Substance,' we are ceaselessly assured, is an underlying something of which we know nothing, not even that it is anything. Yet we know that it is capable of holding in absolutely 'inseparable' connexion and co-operation the two, 'matter' and 'force,' which can never be fused into one. (ii) Of these, 'force,' we see, is identical with 'thought,' 'thought' is identical with 'sensation,' and (iii) 'sensation' is itself unconscious!² Lest the plain

¹ To the words of Paulsen quoted on p. 453 it is really necessary to add here his own ironical comment:

'Und wer nun nicht zufrieden ist mit diesen so klaren Bestimmungen, dem ist nicht zu helfen, wahrscheinlich ist ihm durch spiritualische Philosophie die Fähigkeit zu denken verdorben worden.'—*Phil. MZ.*, p. 145.

And in comparison with the wreck of sense in the above list of pseudo-synonyms, Schoeler's words stand out with emphasis:

'Geist ist daher der treibende Lebensimpuls, der die Körperliche Entwicklung und Gestaltung der Dinge aufbaut, er ist auch das, was ihre Innerlichkeit (die sonst leer wäre) erfüllt und die Innenwelt der Lebewesen erschafft.'—*Probleme*, p. 76.

² This becomes most of all interesting in the light of the later assertion (cf. p. 64 above) that '*sensation perceives* the different

man should think that this is purely 'figurative,' or mere looseness of diction, the following modest thesis is propounded:

The greatest and most fatal error committed by modern physiology in this was the admission of the baseless dogma that all sensation must be accompanied by consciousness. It is better to speak of the unconscious sensation of the atoms as feeling (aesthesia), and their unconscious will as inclination (tropesis).¹

Elsewhere we are similarly told that 'unconscious memory' is a 'universal function of all plastidules.'² So that we have the interesting trio of unconscious feeling, unconscious will, and unconscious memory. Now, in order to be clear, we ought surely to know whether indeed we are to regard these as figurative, according to Mr. McCabe, or real, according to Haeckel. But neither horn of the dilemma yields any comfort for Monism. If they are real, they are absurd. If they are figurative, they are useless. 'Figurative' sensation can never, by any process of continuity, develop into human sensation. Real feeling can never, by any method of verbal jugglery, be made unconscious. The same applies equally, or rather more emphatically, to will and memory. What, then, is the meaning of all this 'verbiage and sophistry'? It is perhaps best to let Haeckel himself say:

qualities of stimuli.' A 'sensation' that is unconscious and yet capable of perception is surely a twentieth-century discovery which ought to be secured for some philosophical museum.

¹ *Wonders*, pp. 300, 307.

² *Riddle*, p. 43.

³ To quote *Haeckel's Critics Answered*, p. 80.

We shall see that the simplest form of sensation (in the widest sense) is common to inorganic and organic bodies, and thus that sensitiveness is really a fundamental property of all matter, or more correctly, all substance. We may therefore ascribe sensation to the constituent atoms of matter.¹

A truly typical specimen of Monistic logic. Assume 'sensitiveness' for 'all substance,' and '*therefore*' ascribe sensation to 'atoms of matter.' And how real, rather than figurative, is this 'sensation' may be judged from the assurance that—

No chemical process can be thoroughly understood unless we attribute a mutual sensation to the atoms and explain their combination as due to a feeling of pleasure, and their separation to a feeling of displeasure.²

No doubt if our powers of (human) sensation were only keener, we should hear the joyful laughter accompanying the former, and witness the tears associated with the latter. Why not? Seeing that—

Every shade of inclination, from complete indifference to the fiercest passion, is exemplified in the chemical relation of the various elements towards each other, *just as* we find in the psychology of man and especially in the life of the sexes.³

It were, however, as wearisome as profitless to wander about in this tangled verbal jungle. If, as is roundly asserted, love between human hearts be only 'the same impetuous movement which unites two atoms of hydrogen to one atom of oxygen for the formation of a molecule of water,' then philosophy

¹ *Wonders*, p. 307.

² p. 320.

³ *Riddle*, p. 80.

is a delusion and science a calamity. Which conclusions we need not consider.

5. It cannot but be observed that this species of monism stands or falls with the *inseparableness* of the two alleged fundamental attributes of substance. Now, philosophy and science alike demand that there should be sufficient reason for so tremendous an affirmation. Confessedly we have plenty of assertions such as the following:

Monistic philosophy is right in so far as it conceives matter and force to be inseparably connected and denies the existence of immaterial forces. Our monistic system regards all substance as having soul—that is to say, endowed with energy.¹

And if anything else be required to make monism workable from this 'constructive starting-point,' it 'must necessarily be assumed.' This is what his chief exponent pronounces 'a perfectly sound and scientific philosophic procedure'!² He proceeds to demonstrate it. 'We not only know no form of matter without force, but we cannot even imagine it.' This is as untrue as it is Monistic. As for imagination, another writer, with equal claim to hearing, says, 'It is sufficient to observe that the whole of the so-called "properties of matter" can be ideally reproduced in the mind, and thus shown by actual experiment to be mental in character.' Where is 'force' in such a case? To identify it with 'thought' is unthinkable. But it is sheer assumption to assert that matter is unimaginable without force, for the

¹ *Wonders*, pp. 85, 308.

² *Haeckel's Critics Answered*, p. 26.

essential definition of matter does not include force at all. The account of matter formerly sufficient was —‘that which possesses inertia.’ To-day’s practical definition is ¹ ‘that which occupies space and possesses weight.’ Whilst the latest theory, in Mr. Balfour’s words,² ‘analyses matter, whether molar or molecular, into something which is not matter at all.’ In either case the alleged inseparableness of space-filling substance and force, is unproved.

It is equally untrue, and bids fair to be more so, that ‘we know no force apart from matter.’³ It may indeed be permitted to say that ‘force seems to be always embodied, or substantiated, in matter,’ but it is not a logical inference to conclude that therefore ‘each is an incomplete reality; or rather they are two sides, or two different manifestations, of one reality.’ For this implies that both are equally real, which is not proved; that they are inseparable, which is the thing to be proved; and that all force must have ‘its material substratum,’ which is no more demonstrated than that all matter must have its inherent energy. Even if, with the authors of *The Unseen Universe*, we define matter, ‘with perfect propriety, as the seat or vehicle of energy,’⁴ that would no more demonstrate the inseparableness of matter and energy, than the fact

¹ Duncan, *New Knowledge*, p. 2.

² *Cambridge Presidential Address*, p. 18.

³ ‘While the monads themselves are not regarded as units of matter, but as units of electricity; so that matter is not merely explained, but explained away.’—*Ibid.*, p. 18.

⁴ p. 142.

that we never see a motor-car—to use Mr. McCabe's favourite figure—careering along without a driver, proves that the latter is inseparable from the former. In plain truth there is no scientific reason, beyond the Monist's powers of conception, for alleging this inseparableness at all. Since the book just mentioned was published, nothing whatever has happened in science to invalidate what its authors then said:

The reader who has followed us so far must now see that our notions of the nature of matter are, at best, but hazy. We know, it is true, a great many of its properties very exactly, so much so, indeed, as to be able to deduce from them mathematically an immense variety of consequences which subsequent experiment shows to be correct, at least within the limits of accuracy of our methods of observation and measurement. But as to *what it is* we know no more than Democritus or Lucretius did, though as to what it may be, or may not be, we are perhaps considerably better prepared with an opinion than they could possibly be.¹

That being so, all dogmatism as to the 'inseparableness' of 'two fundamental attributes,' and weaving of an elaborate 'network of explanations, theories, and hypotheses from this constructive standpoint,' may be, as Mr. Balfour hints, a 'bold attempt to unify nature which excites feelings of the most acute intellectual gratification,' but it is actually no more than a day-dream as to its promises, or a nightmare as to its threats. Isaac Taylor's words are as true as ever: 'Mind and matter must each have its philosophy to itself. The modes of reasoning proper to

¹ *The Unseen Universe*, p. 142.

the one can only be delusive if carried over to the other.'¹

6. It deserves, therefore, to be affirmed, with all emphasis, that the Monistic conception of 'substance,' with which its system stands or falls, *assumes a knowledge of fundamentals which far exceeds* what science either now possesses or is likely to obtain. It is not only a case of 'ignoramus,' but, as Du Bois Reymond insisted, of 'ignorabimus.' Professor Lodge's gentle paraphrase of Ruskin is well warranted in this connexion.

Do not think it likely that you hold in your hand a treatise in which the ultimate and final verity of the universe is at length beautifully proclaimed and in which pure truth has been sifted from the errors of all preceding ages. Do not think it, friend, it is not so.²

Professor Ward, referring to the question before us, thus says summarily:

Matter, as substance, is, in short, as rigorously excluded from modern physics as mind, as substance, is banished from modern psychology: indeed, matter is not merely excluded, but abused as a 'metaphysical quagmire,' 'fetish,' and the like.³

This is not a case, be it observed, of the *ding an sich*.

¹ cf. *Modern Materialism*, Wilkinson, Present-day Tracts, No. 17, p. 40.

² *Hibbert Journal*, January, 1905, p. 513.

³ Basing his remark (*Naturalism and Agnosticism*, vol. i. p. 57) upon a statement of Professor Tait—all the more impressive because of his well-known hankering after the metaphysical—that "we do not know and are probably incapable of discovering what matter is."

We need here raise no objection when Haeckel¹ says that he sees 'no good reason at all for thinking that matter and force are a screen or veil hiding something else.' He may say, if he will, that 'they *are* the one eternal substance or reality.' But, in the very degree in which he thus escapes idealism, his realism is found to be unproved and unprovable. We are quite willing, with Professor Lloyd Morgan, to grant him a 'something which exists and abides, independently of the presence of any human or other sentient being.'² But the rest must be faced.

The gist of Berkeley's destructive argument is that the substance of matter, supposing it to exist, cannot possibly resemble any of those forms of experience which we call the quantities of material objects. And there is no gainsaying this argument.³

Out of such a position, a very real and truly modest 'agnoiology'—to use Professor Ward's term—ought to result. Even as to atoms, which are a distinct advance upon 'substance,' Haeckel himself acknowledges that—

We have not as yet obtained any further light as to the real nature of these original atoms, or their primal energies.⁴

Whilst as to the 'original matter' lying at the

¹ *Haeckel's Criticism Answered*, p. 27. Yet it would certainly seem that this is precisely what his monism suggests. What else can follow from the formula, the 'one underlying substance with force and its material substratum'?

² *Contemporary Review*, June, 1904, p. 786.

³ So, too, Professor Huxley: 'After all, what do we know of this terrible matter, except as a name for the unknown and hypothetical cause of states of our own consciousness.'—*Lay Sermons*, p. 124.

⁴ *Confession*, p. 20.

foundation of all ponderable material, he frankly owns :

I believe that the solution of these fundamental questions still lies as yet beyond the limits of our knowledge of nature, and that we shall be obliged, for a long time yet to come, to content ourselves with an 'Ignoramus'—if not even with an 'Ignorabimus.'¹

How far such modesty as shrinks from the dogmatic formulation of iconoclastic 'monistic systems,' ought to result from our modern knowledge, may be well learned from the recent Presidential Address before the High Court of modern science, in which the eminent author's suggestions contrast somewhat seriously with the affirmations of Haeckel's exponent. Says the latter :

Not only the literal but the only rational meaning of phenomena is that matter and force are the world-substance breaking upon our perception in two different ways.²

But the President of the British Association remarks that—

It is confusing to describe as phenomena things which do not appear, which never have appeared, and which never can appear, to beings so poorly provided as ourselves with the apparatus of sense-perception. Our knowledge of reality is based upon illusion, and the very conceptions we use in describing it to others, or in thinking of it ourselves, are abstracted from anthropomorphic fancies, which science forbids us to believe and nature compels us to entertain.

Considerations like these do undoubtedly suggest a certain inevitable incoherence in any general scheme of thought which is built out of materials provided by natural science alone. Natural science must ever regard knowledge as the product of

¹ *Confession*, p. 31.

² *Haeckel's Critics Answered*, p. 27.

irrational conditions, for in the last resort it knows no others. The more imposing seems the scheme of what we know, the more difficult it is to discover by what ultimate criteria we claim to know it.¹

7. But beyond this plea for modesty rather than iconoclasm, on the ground of our ignorance, we may positively affirm that *the reasons alleged do not justify this constructive starting-point* of Haeckel's monism. They are really two: 'conception' and 'experience.' The former manifestly avails nothing, because other men of science, equally competent in all respects, have conceived, and still do conceive, something very different from the eternal 'matter-force-reality,' evolving only by 'necessity.' Upon that we need not dwell.

But with much assurance—and we may add with much misrepresentation—Goethe is quoted as saying that 'matter can never exist or act apart from spirit, neither can spirit apart from matter.' Even if Goethe had pledged himself to such a position, would it thereby have become either science or philosophy? Certainly it would not. The moment science assumes omniscience, it ceases to be science and becomes bombast. As for the question whether at present 'the existence of mind is inconceivable without a physical basis,'² we are definitely assured that Huxley—in this case a better witness than Goethe—'when this question is definitely raised, rightly refuses to assert the inconceivability of mind apart

¹ *Reflections*, &c., pp. 5, 18, 22, 23.

² See Ward's *Naturalism and Agnosticism*, ii. 215.

from matter. So, then, matter is inconceivable apart from mind, but mind is not inconceivable apart from matter.' Nor does Haeckel's own comment improve the Monistic situation: 'Experience has never yet discovered any spirit apart from matter.'¹ For in the first place we may ask in reply, Has 'experience' ever yet discovered any spirit 'inseparable' from matter? And the plain answer is, in the sense of Haeckel's 'constructive starting-point,' Certainly not. He himself freely acknowledges that it is a matter of speculation. Why then, one may well ask, should it be permissible to speculate upon matter as being inseparable from force, and not upon matter as separable?

But if 'experience' is really to be the test of validity, we must apply it also to other things. 'Ponderable matter,' for example, has evolved, so we are told, 'from imponderable.' Have we any 'experience' of this? Or has experience ever discovered it? Rather is not Mr. Mallock justified in saying that—

If science is unable to suggest how the cosmic vapour, which is matter already in a high state of development, came to have its atoms arranged in that elaborately specific way which was requisite in order that a specific universe should be evolved from it, much more is it unable to suggest how a similarly specific arrangement came to be possessed by the ether, to which, in the last resort, the primordial arrangement of the cosmic vapour must have been due.²

Or has 'experience' ever discovered any of these 'psychic atoms' which play so important a part in

¹ *Wonders*, p. 87.

² *Religion as a Credible Doctrine*, p. 233.

the 'network' of the monistic system? Who can gainsay what Dr. Keeling suggests?—

You see, my friend and I dabble a bit in chemistry. We have often had samples of these eternal unchanging atoms in our laboratory, and, test them as we would, we could never find in them the slightest trace of a psychic endowment.¹

Yet Haeckel lays down the 'thesis' as 'indispensable' that matter and ether are 'endowed with sensation and will.' Is this 'experience'?

In plain speech, has 'experience' ever yet discovered any atoms at all? What is the utmost that Haeckel himself, however anxious to support his own thesis, can find to say hereupon?

The most recent advances of chemistry have now made it in the highest degree probable that these elements are only different combinations of a varying number of atoms of one original element.

To these original or mass atoms—the ultimate discrete particles of inert ponderable matter—we can *with more or less probability ascribe* a number of eternal and inalienable fundamental attributes.²

How convenient! And yet also how significant that, in the ultimate, the 'monistic system,' for all its rhodomontade, rests upon a more or less 'probable' ascription of something that 'experience' has never yet discovered, to something that no one has ~~never~~ yet seen! It is, however, only a specimen of the rest. For it is certain that 'experience' has never yet discovered thought without brain, or sensation and will without nerves, or the living arising out of

¹ *Some Ways of Looking at Matter*, p. 40.

² *Confession*, pp. 20, 26.

the non-living, &c., all of which 'are indispensable for a truly monistic view of substance.'

Two remarks by competent critics may well close this section. From the standpoint of physical science, Professor Poynting reminds us that—

There is a growing school of physicists who claim that the trend of science is to do away with such hypothetical bridges, who regard atoms and molecules as needless suppositions. Or, at most, they regard the hypotheses as merely temporary structures which may perhaps have done good service in their time. Now, they say, we should need to describe the sensible in terms of the sensible only, we should investigate the laws of the transformation of energy as we actually see it going on, and we should refrain from introducing atoms and the like imagined things whose existence we can never verify.¹

Whilst in illustrating the assertion that 'Haeckel's philosophy is made up of two halves which stand to each other in a relation of violent antagonism. A dogmatic and rationalistic metaphysic such as you find in Spinoza, a scepticism and sensationalism such as you find in Hume, are the two complementary halves of his view of the world'—Mr. R. Christie shows that—

1. Modern science yields no such substance as Haeckel imagines.

2. His 'substance,' so far from explaining the universe, is unable to bear its own weight.

3. The assumption underlying all this, that the inorganic world is the one thing absolutely real, is radically false.²

How trenchantly such an estimate is borne out by critics in Haeckel's native land, may be fairly

¹ *Hibbert Journal*, July, 1903, p. 738.

² *Contemporary Review*, April, 1904, p. 510.

gathered from such quotations as space permits us here to incorporate.¹

8. Whatever protests may be made by Haeckel and his admirers, we repeat that this doctrine of 'substance' *stamps the monistic system he advocates as materialism*, and lays it open to all the objections arising therefrom. Mr. McCabe says

In his natural history of creation Professor Haeckel admitted that his monism was not far removed from scientific materialism. But there is still so gross a confusion on the subject that it is very natural for him to refuse the name.²

'Natural' or not, it is useless to refuse the name whilst retaining the thing. The very inseparableness of force—which we are told to identify with 'spirit' and 'thought,' that is, mind—from matter, carries with it the consequence that 'all action of mind must be action of matter, and there can be no laws of mind which are not laws of matter'; which is the essence of materialism. Thus when Haeckel himself writes:

Theoretical materialism (or hylonism) as a realistic and monistic philosophy is right in so far as it conceives matter and force to

¹ The opening words of Professor Schoeler's *Probleme* serve well as a pointer to the rest. 'Der Humbug des Substanzbegriffs. Substantia bedeutet id quod substat, "das was zu Gründe liegt." Aber was liegt denn zu Gründe? Darauf erhalten wir keine Antwort. Der Substanzbegriff ist also ein rein formaler, inhaltlich völlig leerer Begriff. Und die Ironie dabei ist, dass dem Begriffe des aus dem Lateinischen stammenden Wortes Substanz das aus dem Griechischen stammende, uns gleichfalls sehr geläufige Wort Hypothese (Unterlage, "Substanz") entspricht. Substanz und Hypothese ist also dasselbe.'

² *Haeckel's Critics Answered*, p. 19.

be inseparably connected and denies the existence of immaterial forces,¹

he practically makes mind an attribute of matter, and warrants Professor Case's summary in the *Encyclopaedia Britannica* :

It makes no difference to attribute mind to all matter, so long as it is attributed as an attribute. If philosophy makes force an attribute of matter only, it will recognize nothing but matter possessing force, and will therefore be materialism as well as monism : in short, materialistic monism. The point is that neither Haeckel nor Büchner could on their assumptions recognize any force but force of body, or any mind but mind of body, or any distinct thing or substance except body. This is materialism.'

Against such an estimate his faithful henchman may strive as he will; it is manifestly to no purpose so long as we have his master's words before us. If 'the atoms of our brain' and the 'energies of our spirit' are as physically conceivable and measurable 'as any other particle of matter;' if 'kinetic energy' is synonymous with mental energy; if 'the soul is a sum of plasma-movements in the ganglion-cells'; of what avail is it to protest that 'monism does not deny the existence of spirit,' or that 'Haeckel attaches as much importance to force as to matter'?²

¹ *Wonders*, p. 85. It is curious that the writer does not see how his own terms contradict themselves. If matter and force are only 'connected' they must at least have distinct existence. If not, then matter is force, and force is matter. '*Alles ist eins.*' But if force has distinct existence, then its assumed inseparableness from matter does not make it material. Hence immaterial force must exist.

² Article 'Metaphysics,' p. 648. The whole article merits careful study.

³ *Haeckel's Critics Answered*, pp. 18, 19. Mr. R. B. Arnold (*Scientific Fact and Metaphysical Reality*, p. 359) well says, 'The Rationalist Press, if it is desirous of justifying the assumption of such a title, should now add to its list some reduction of Kant and Hegel to a

The system which denies mind any existence apart from matter, can never be anything but materialism, and is logically exposed to the full force of the refutation with which Principal Caird met it, when he showed that 'the fundamental objection to the materialist theory is that it begs the whole question at issue.'¹

9. Certainly, as Haeckel pleads for the right in general of committing suicide without reproach, the same liberty may be accorded to his system. On certain occasions a most real *hara-kiri* in philosophy appears to be definitely, if unintentionally, exhibited. 'Will,' 'soul,' 'sensation,' if real,² however elementary, differ only in degree, we are assured, from the highest popular form.' I would suggest that Mr. McCabe should also render Professor Adickes's *Kant contra Haeckel* into our tongue, so that the 'intelligent artisan' may note such an estimate as this from a critic quite as authoritative in these respects as Professor Haeckel: 'Nach Ausweis dieser Stellen die sich leicht um ein Bedeutendes vermehren liessen, ist also Haeckels Theorie des Geistigen eine rein materialistische. Und ebenso wie Büchner und verwandte Geister, die auf Kosten der Klarheit und Bestimmtheit Popularität erkaufen, zeigt auch Haeckel schon durch den Gebrauch so verschiedener, einander teilweise widersprechender Ausdrücke seine Verlegenheit sobald es gilt die Theorie im einzelnen durchzuführen und die Abhängigkeit des Psychischen vom Physischen anschaulich darzustellen.'

'Was diese Herren behaupten ist an sich unbegreiflich. Fruchtlos bleibt darum natürlich auch ihr Bemühen, es begreiflich zu machen. Es ist, wie wenn jemand ein Badebassin auspumpen und mit Heu füllen liesse, sich dann auf das Heu legte, mit Beinen und Armen um sich stiesse und meinte—er schwimme. Die Materialisten stellen die Sache direkt auf den Kopf, schneiden sich jede Möglichkeit einer Erklärung ab, und verlangen dann, man solle blosse Behauptungen und Postulate als Erklärungen und Beweise hinnehmen' (p. 23).

¹ See *The Fundamental Ideas of Christianity*, ii. pp. 283-4.

² Of course if they are only 'figurative,' as Mr. McCabe suggests, we need trouble no further. Monism becomes then the 'baseless fabric of a vision.'

mental activity of man. Be it so. In every case they are either material or immaterial. If the former, we have no further need of witnesses that Monism is materialism. If the latter, what becomes of such unequivocal statements as the following?—

In *all* cases, in the lowest as well as the highest stages of the psychological hierarchy, a certain chemical composition and a certain physical activity of the *psychoplasm* are *indispensable* before the soul can function or act.¹

The dilemma is simple; let the Monist face it. 'Pyknations'—atom-forming centres of condensation in the ether—have 'souls.' These souls are either figurative or real. If the former only, they have no evolutionary relation whatever to the souls in ourselves, whose reality is not disputed save by downright materialism. If the latter, then here is soul—actual, however 'elementary'—without 'psychoplasm,' and without 'chemical composition,' whereby the author cuts the ground from under his own feet. So the Monistic 'hylonism' which declares the human equally with the pyknation soul to be 'only a sum of movements,' explodes itself. It is small wonder that a keen and careful critic should say—with other illustrations—'Thus Haeckel's positions annihilate each other.'²

We must refer to a previous chapter for warrant to avow that, in regard to the human mind, Monism is automatism.³ But if there be one thing which

¹ *Riddle*, p. 39.

² Mr. B. Christie, *Contemporary Review*, p. 505.

³ Here again it is most interesting to let Haeckel's answer contradict himself—even upon the same page. First we are told (*Riddle*, p. 66)

our whole being refuses to acknowledge as automatic, it is 'the irresistible passion that draws Edward to the sympathetic Ottilia.' And if truly this is '*the same* impetuous movement which unites two atoms of hydrogen to one atom of oxygen,' and nothing more, then such automatism is for ever and everywhere deservedly rejected—and Monism with it.

10. It is necessary also to point out that *nothing whatever is gained, either for philosophy or science*, by this particular Monistic conception of substance.

(i) In regard to the philosophy of the case, it is said that—

We are beginning to realize that the dualist theory of man never did afford any explanation of anything. The connexion of soul and body was always incomprehensible; nor is there the slightest intellectual satisfaction in covering up the whole mystery of the mind with a label bearing the word 'spirit.'

Then, pray, what is the gain in substituting the label 'substance' for that of 'spirit'? Most people who think will recognize both philosophy and common sense in Mr. Harris's criticism :

It is said that mind and matter are both attributes of some unknown *tertium quid*, which causes the activities of both. But there is absolutely no evidence that any such *tertium quid* exists. The mystery is not removed by assuming this unknown *tertium quid*. For in the first place this is but another mystery ; and in the second place, it being, *ex hypothesi*, neither mind nor matter,

that 'the *ontogenesis* of consciousness makes it *perfectly clear* that it is not an immaterial entity.' Then, that 'however certain we are' of its 'natural evolution,' we are 'unfortunately not yet in a position to enter more deeply into the question and construct special hypotheses in elucidation of it.' That is, we do not know enough to examine thoroughly—but we know enough to be quite sure! Monistic, truly!

¹ *Haeckel's Critics Answered*, p. 59.

it is a mystery how it can act upon either. Thus this theory substitutes several mysteries for one. It is said that mind and matter together make up a single reality and constitute a double-faced entity. [Mr. McCabe's 'matter-force-reality.'] This, however, contradicts consciousness. Consciousness (which after all is the only possible guide) draws an absolute distinction between the mind and the brain. To affirm, in opposition to consciousness, that these two things are the same, because they happen to be connected, is arbitrary in the extreme.¹

With this agrees the judgement of one of Germany's best-known psychologists, Hermann Lotze—quite as competent in philosophy as Haeckel in 'phylogeny':

The more definite formulating of these thoughts [of Spinoza and Schelling] arouses our scruples against them. The difficulty lies in the singular circumstance that just those two attributes which are not reducible to each other (thought and extension) are assumed to form the essence of all the existent. To find, however, for both of these attributes a still higher common root, from which both issued as mere consequences, but did not themselves constitute such root, is a problem that surpasses all human power of comprehension.²

The manifest truth of this remark, is sufficient to show up for ever, the sophistry of any plea for Monism based upon a claim to superior lucidity.

The word 'attribute,' again, we cannot but note, is constantly used to 'cover up the whole mystery' of 'substance.' But it is, when scrutinized, a mere empty, question-begging epithet. It assumes, purely for the convenience of Monism, an underlying something which is equally undemonstrated and undemonstrable, and calls this philosophy! On the

¹ *Pro Fide* (Murray), p. 192.

² See *Outlines of the Philosophy of Religion* (Dickinson), p. 38.

other hand, in Herder's defence of Spinoza we find Philolaus saying :

If his deity embraces endless attributes, each of which expresses an eternal and endless being, we have no longer two attributes of thought and extension, which have nothing in common, and so we can give up altogether the objectionable and inappropriate word 'attribute,' and substitute for it the statement that the deity reveals himself in endless forces in an endless number of ways.¹

Compare this with Haeckel's reiterated reference both to 'attributes' and to Spinoza.

Another specially favoured Monistic 'label' is the word 'aspects.' Haeckel's exponent repeatedly assures us that—

Matter and force are to him two aspects of one reality, and the unity of the cosmos is the unity of that reality. Spirit-force or energy, emerging finally as human thought-force, is admitted.²

Is there, then, the slightest 'intellectual satisfaction' in 'covering up the whole mystery with a label' bearing the word 'aspects'? Surely only for the Monist. To most others this philosophy of 'aspects' must be as unsatisfactory as it is self-satisfied. This wonderful 'matter-force' is of course intended to

¹ See *Hibbert Journal*, July, 1905, p. 716.

² *Haeckel's Critics Answered*, p. 78, &c. It will be noticed that we have here also another favourite Monistic label—'emerging.' Everything is continually and conveniently 'emerging.' The process being *ex hypothesi* purely mechanical, the resulting stages are interesting indeed. First, we have matter and force inseparably welded in a 'reality' which is really nothing but a 'conception.' Then, the force, though 'inseparable,' manages to transform itself, as required by Monism, into energy, spirit, consciousness, thought, and finally 'emerges' in moral capacity. There are many more of these wonderful and useful labels in Monistic philosophy.

'emerge,' necessarily, in the human mind. But Professor Tyndall, at all events, did not favour such a result. His query still waits for answer:

There are plenty of molecular motions which do not exhibit this two-sidedness. Water does not think or feel when it runs into frost-ferns upon a window frame; and why should molecular motion of the brain be yoked to this mysterious companion consciousness?¹

(ii) So far as science is concerned, certainly the Monistic 'conception' is as useless as it is unwarranted. Professor Poynting has reminded us that 'the newer school of physicists will have no dealings with atoms.' But this 'matter-force-reality' is a far more hypothetical and unnecessary conception. Such clumsy lumping together of contraries—with the assumption that they are 'welded'—is indeed nothing more than a sacrifice to the fetish called the 'unity of matter.'² Full discussion being here impossible, it must suffice to quote one whom Haeckel mentions

¹ See Syme, *The Soul, a Study and an Argument*, p. 81.

² I have already called attention (p. 421 above) to Mr. McCabe's attempt to foist upon me this phrase of his, of course with his own interpretation attached. But I must repeat that I entirely decline to be bound, Mazeppa-like, to his conceptual certainties. This stock phrase, 'unity of matter,' is not only without charm to me, but, from the Monistic standpoint, is meaningless. Matter, *per se*, is, according to Monism, unthinkable; and the unity of the 'matter-force-reality' is simply a huge *petitio principii*. As to its being 'the only serious point in question,' I hope that these pages will make plain the utter falsity of such a suggestion. The attitude of Mendeléeff —'of course there are many problems to be solved, but I think the majority are unfathomable' (p. 44)—not only suggests an impressive confirmation of Du Bois Reymond, but must be manifest to every one who has not a 'monistic system' to carry through.

with respect, Mendeléeff, 'the doyen of chemical science':

When I am told that the doctrine of unity in the material of which the elements are built up responds to an aspiration for unity in all things, I can only reply that at the root of all things *a distinction must be made between matter, and force, and mind*; that it is simpler to admit the germs of individuality in the material elements than elsewhere. In a word, I see no object in following the doctrine of the unity of matter, while I clearly see the necessity of recognizing the unity of the substance of the ether, and of realizing a conception of it, as the uttermost limit of that process by which all the other atoms of the elements were formed, and by which all substances were formed from these atoms. To me this kind of unity is far more real than any conception of the formation of the elements from a single primary matter.¹

'Whether ether has the properties of spirit or no' depends, we are told, on what we mean by 'spirit.' A sage remark indeed, from the Monism which avows that spirit=force=energy=thought=mind=molecular motion. But it also depends upon what we mean by 'ether.'² All that need here be said is that every attempt, to read into it, as 'a peculiar

¹ *Chemical Conception of the Ether*, pp. 32, 33. Italics mine.

² Seeing that a volume would be required for full consideration of this theme, the reader is referred to such works as have been mentioned. A comparison may profitably be made between Haeckel's summary (*Riddle*, p. 81) and chap. iv. in Mr. Hooper's *Aether and Gravitation* (Chapman & Hall) which merits no less consideration for being intelligibly written. Every one of Haeckel's 'eight theses' challenges criticism. A specimen of the multiplied self-contradictions with which these pages abound, is given also here. We are told (p. 82) that 'we can convert any physical forces into one another, and prove by an accurate measurement that not a single particle of energy is lost in the process'! And yet in regard to the ether, the original form of the 'matter-force-reality,' it is remarked on the previous page that 'if it really has weight, as is very probable, it must be so slight as to be far below the capacity of our most delicate balance.'

all-permeating gas'—to quote Mendeléeff's result—such 'force' as shall issue in 'this specific movement of ether which is the ultimate cause of all phenomena'¹ is, as Principal Caird points out, simply the begging of the whole question at issue. It is, once again, really neither more nor less than the old trick of the conjurer who surreptitiously slips into his hat whatever he means to get out of it.

It must be acknowledged that Monism is very obliging. 'Haeckel can fit into his system any theory of the evolution of matter that physicists decide to adopt.'² We quite believe it, but it will require some adroitness. The foundation stones of the system are the 'matter-force-reality' and 'the two chief types of substance, ether and mass.'³ But the present findings of modern physics are that—

Matter has disappeared as a fundamental existence, or at any rate it is explained [the president of the British Association says 'explained away'] as a manifestation of electricity. Mass, a supposed indestructible thing, has disappeared with matter, and comes into existence only as the negative electron.⁴

How things that have 'disappeared' can be 'fundamental attributes' of a 'substance' which only hypothetically exists, is a problem that even Monism will find some difficulty in solving.

Sir A. Rücker (in his Presidential Address at the Glasgow meeting of the British Association in 1901) is said by Haeckel's advocate to 'meet the objection

¹ *Riddle*, p. 81.

² *Haeckel's Critics Answered*, p. 25.

³ *Riddle*, p. 82.

⁴ Professor Duncan, *The New Knowledge*, p. 252.

for us.' Is this so? A reliable report says that 'he entirely repudiates the view of Vogt and Haeckel, which regards ultimate matter and the ether as animate and endows both with sensation and will.'¹ To ordinary folk, entire repudiation seems a curious method of support.

In a word:

Neither monism nor dualism is science. Both are philosophies and have to be reconciled with science. It is conceivable that neither of them will finally win. Both are very old, have often been tried, have never quite succeeded. It is just possible that the Locke-Westcott postulates may outlive them. Materialism says not, and at present declares naturalistic monism to be the only true guide. *This is purely a matter of opinion.*

My suggestion is that, in anything relating to the science of matter, we may trust two such eminent physicists as Kelvin and Rücker, when they tell us that no psychism dwells in non-living matter, and that *any monism which would lodge it there is a delusion.*²

12. Haeckel's fundamental and reiterated assertion is that 'the universe is eternal, infinite, and illimitable. Its substance, with its two attributes, matter and energy, fills infinite space and is in eternal motion.'³ Those who venture to question this, are said by his champion to exemplify 'dreadful confusion' of mind, in that they assume, 'in sweet unconsciousness, this most important thesis, that there was a time when matter or motion was not.' Undeterred, however, by such fearful consequences, we still maintain that this persistent reiteration of the 'eternity of matter and motion' is—to quote this writer's own phrase—

¹ See *Some Ways of looking at Matter*, Dr. Keeling, p. 33.

² *Ibid.*, pp. 32, 34.

³ *Riddle*, p. 5, &c.

'one of the largest assertions that was ever made on the poorest of sophisms.'¹ And, in mere outline, for these reasons.

(i) It is pure assumption without any warrant. The 'eternity of matter,' well says Mr. Christie,² 'is the grossest *petitio principii*. When the materialist has proved that really, fundamentally, life and mind are nothing but matter, then, but not till then,' we may speak about the eternity of matter. As for 'eternal motion,' it is simply a bare assertion, necessitated by the fact that the motion which cannot be denied, cannot also be left without cause. But the assertion of its eternity does not amount even to the suggestion of a cause.

(ii) No verbal shuffle about 'negations' relieves such assumption. 'Eternity is a negative concept. The essence of Haeckel's position is negative,' so pleads his advocate.³ But although this latter statement is true, especially in the sense upon which Professor Paulsen comments,⁴ it is by no means a dismissal of the unmistakable affirmation that the universe, in his sense, 'is eternal.' It may serve a passing purpose to say that 'the essence of Haeckel's

¹ *Haeckel's Critics Answered*, p. 31.

² *Contemporary Review*, as cited, p. 511.

³ *Haeckel's Critics Answered*, p. 31.

⁴ "In den "Welträtseln" tritt uns ein anderer Haeckel entgegen, ein negativer, beschränkter, verdriesslich, absprechender Haeckel, dessen Philosophie eigentlich aus lauter Negationen besteht: kein von der Welt getrennter Gott, keine vom Körper unterschiedene Seele, kein über das Wissen hinausgehender religiöser Glaube, keine Philosophie ausser der mechanistischen Physik, und der dann den so gewonnenen leeren Raum mit einigen dürftigen, leeren Wörtern ausfüllt: Substanz, Monismus, Psychoplasma, u. s. w."—*Philos. Milit.*, p. 125.

system is 'monistic or negative'; but if Monism really represents a mere negation, its vocation is gone, and its name is false.

(iii) The *onus probandi* for such a tremendous assertion as that 'there never was a time when matter or motion was not,' assuredly lies with the system that makes it. Such an admixture of assertion, shuffle, and sneer, as the following, is no proof at all.

Neither philosophy nor science points to a beginning of the scheme of things. In view of the constancy of matter and the inconceivability of a creation out of nothing, very strong evidence would have been required to make us accept this beginning. As it is, the *only* source of the assertion is the first line of Genesis and a concern for theistic evidence. Every effort to assign a beginning fails. We should never have heard of it, but for 'the matchless revelation of Genesis.'¹

Of these five sentences it were difficult to say which is most false. The last, intended for a sneer at Dr. Horton, is beneath reply. The first is as untrue as it is ambiguous. If 'the scheme of things' refers to the world, or the solar system, then both science and philosophy demand a beginning for it.² If, however, the 'universe' is to be understood, then the beginning of 'things' passes out of the realm of science altogether, and philosophy is quite unable to conceive a 'scheme of things' without beginning. The 'constancy' of matter is quite irrelevant, having

¹ *Haeckel's Critics Answered*, p. 32.

² Professor Huxley declared unequivocally that 'astronomy leads us to contemplate phenomena the very nature of which demonstrates that they must have had a beginning'—*Essays*, i. 35.

nothing to do with the 'eternity' of matter. Whilst as to the 'inconceivability of creation out of nothing,' Professor Huxley should be as good a judge as Mr. McCabe. Yet in his *Science and Hebrew Tradition* (p. 186) we find him saying :

What is intended by 'made out of nothing,' appears to be caused to come into existence, with the implication that nothing of the same kind previously existed. This is perfectly conceivable, and therefore no one can deny that it may have happened. It appears to me that the scientific investigator is wholly incompetent to say anything at all about the first origin of the material universe.¹

The third sentence is best estimated in a sentence of Professor James relating to modern materialism : 'The intensely reckless character of all this needs no comment'—as witness the word italicized.

(iv) There is good reason for saying that such an assertion is, and always must be, unscientific. In the words of Professor Ward :

When Mr. Spencer, or some one else, shall have shown that what exists must exist as matter, or not exist at all, and that all matter is necessarily ponderable matter, then, but not before, the old maxim *ex nihilo nihil fit*, and the appeal to the balance, will be relevant to the question.²

(v) With equal plainness it must be pointed out that this same assertion of the 'eternity of matter and motion' is quite irrelevant for the purpose for which Haeckel and his exponent especially allege it, viz. the 'eliminating of additional substances, or forces, which theists, spiritualists, or supernaturalists, would

¹ See Harris, *Pro Fide*, p. 155.

² *Naturalism and Agnosticism*, i. 86.

compel us to add to it.'¹ For no such elimination follows. Dr. Keeling has accurately expressed this in saying that—

An eternal or temporary duration of matter is of no moment whatever to the theistic hypothesis. If matter be temporary, Divine Power created it. If eternal, matter is a perpetual manifestation of that Power. On the other hand, the eternity of matter—a pure assumption—is absolutely indispensable to the materialistic theory. For if matter had a beginning it sprang from nothing, there being neither power by which, nor substance out of which, it could originate.²

Mr. McCabe is good enough to refer³ to Dr. W. N. Clarke as having 'retreated' to a certain position in this regard. Let this should mislead the unwary, it may be as well to let Dr. Clarke speak for himself:

Even if we say that the universe has never had a beginning, but has always existed, and always been passing through an unbegun and endless round of change, still we must assign to it a cause. We are relieved of the necessity of asserting a cause antecedent in time, but not of the necessity of asserting an underlying and determining cause. Beneath the material form, and movement, and variety, and back of the process of unfolding by which the universe has come to be what it is, we are compelled to affirm that there is some cause for its being such a universe as it is, and a cause for its existing at all. If the universe is eternal, we still have to inquire how there came to be an eternal universe. If the universe is ever-changing and unfolding, we ask how there came to be an ever-changing and

¹ *Haeckel's Critics Answered*, p. 27.

² *Some Ways*, &c., p. 11.

³ *Haeckel's Critics Answered*, p. 32. With an inaccurate number of the page, of which one would think nothing, were it not for the boasted superiority in these respects with which he begins.

unfolding universe, and by what the character and direction of its endless movement is determined. A cause still underlies it.¹

If this be a 'retreat,' it is such as may well commend itself to every rational being.

(vi) Further, clear thought cannot but make plain that this same assumption of the eternity of matter and motion, reduces evolution to unthinkableness. The Monist may have his eternity of matter, or his evolutionary process, as the cause of all phenomena; but both he cannot have. Every instance of evolution—on whatever scale—is a definite process for which a beginning is absolutely required. But whether such a commencement be deemed either 'fortuitous,' or 'necessary'—

In the case of every separate mass of matter, the formation of which into a system commenced at any definite period, the probabilities were immensely in favour of the commencement of the process many times over before that period. Whenever it began, it ought to have begun before.²

For all evolutionary purposes, the assumption of the eternity of matter is useless, and that of the eternity of motion is intolerable. The former does too little, the latter too much, to substantiate Monism. Nor is it in the least relevant to reiterate that 'every effort to assign a beginning fails.' For there is always at hand a greater failure, viz. the effort to conceive of such a universe as this, even so far as we know it, without a beginning. The former is a

¹ *Outline of Christian Theology*, p. 111.

² W. F. Wilkinson, *Modern Materialism*, p. 34.

lack of scientific ability, the latter is a contradiction of philosophical possibility. Between these, the rational choice is clear.

(vii) Finally, the very principle of causality, as Dr. Rice points out, 'forbids us to believe in an uncaused beginning. It compels us to believe in the existence of something eternal and self-existent, wherein lies the ground of all other existence.'¹ But that such an eternal something cannot be identified with matter and motion—or a 'matter-force-reality'—is manifest. For there are sufficient reasons, as we have seen, for denying both their self-existence, and their sufficient potentiality as the ground of all other existence.

13. After all, the more we come to consider carefully even the most pronounced of Haeckel's definitions of his 'system,' the more plainly 'emerges' the conclusion that it is not Monism at all, but something else.

(i) In the light of some statements it stands out markedly as dualism, in spite of all the rancorous references to such a suggestion. Thus after dismissing, as he thinks, both 'materialism' and 'energism,' we are told that—

Monism escapes the one-sidedness of both systems, and, as hylozoism, refuses to separate the two attributes of substance, space-filling matter and active energy.²

But do any two things whatever become one by 'refusing to separate' them? That matter and energy

¹ *Christian Faith in an Age of Science*, p. 303.

² *Riddle*, p. 8, &c.; *Wonders*, p. 88, &c..

are two, distinctly, is not denied. Is there, then, any real transformation into oneness by conceiving of them as 'attributes' of a hypothetical underlying something which cannot even be proved to exist? It is easy enough to ring the changes upon 'force-matter' and 'matter-force-reality,' but there is no logic in such names. We may be told again and again that—

Force seems to be always embodied or substantiated in matter. Each is an incomplete reality; or rather, they are two sides, or two different manifestations, of one reality.¹

But it is all pure 'conception.' There is no philosophical worth in the 'seems'; there is no scientific justification for the 'always.' The incompleteness, moreover, of each, *per se*, is an unwarranted assumption. The 'one reality' is as unsubstantial as a wish. There are two realities, to call which 'manifestations,' manifestly begs the question with adroitness, but proves nothing either for science or philosophy by so doing. If we desire confirmation of this, all that is needed is found in Haeckel's own statement:

Our conception of monism is clear and unambiguous. For it, an immaterial living spirit is just as unthinkable as a dead spiritless material; the two are inseparably *combined* in every atom.²

Here is the open confession that the two (whatever they are) remain two—for combination assuredly is

¹ *Haeckel's Critics Answered*, p. 26.

² *Confession*, p. 58: A living spirit' plus 'dead material' in every atom—and yet in the human being there is no living spirit, but *only* 'the collective idea of the sum of the functions of psychoplasm,' or the sum of 'plasma-movements'!

not fusion into one—'in every atom.' Even if the 'inseparableness' were conceded—which it is not—the dualism yet remains, unaltered and unalterable. To add, by way of extenuation, that 'not a single empirical proof can be adduced to show that either of these, matter or energy, can exist or become perceptible to us by itself alone,' is an amazing exhibition of hardihood, evasion, and confusion, in one. For there are plenty of facts in human consciousness, to say nothing of the work of the Society for Psychical Research, in which force cannot possibly be chained to matter. The question is not at all whether either of these two can 'become perceptible' to us 'by itself alone,' but whether we are in a position to pronounce that they *can* only 'exist' in an inseparableness which fuses the two into one. Until that is done, Monism does but signify a self-deceiving dualism.¹

(ii) Yet are we prevented, by the force of Haeckel's own words, from accepting even this as final. 'We

¹ So says Professor Adickes with truth: 'Auch hinsichtlich der Konstitution des Weltalls bringt Haeckeles zu keinem wirklichen Monismus. Mit grossem Nachdruck betont er stets, dass nirgends im All Stoff ohne Kraft oder Kraft ohne Stoff vorkommt. Es sei der Fall: dann stünden Kraft und Stoff zwar stets mit einander in engstem Zusammenhang, aber auch stets nur als eine Zweifelt, die nie zur Einheit wird.'—*Philosophia Milit.*, p. 13.

Dr. Dennert also points out: 'Hier hängt Haeckels versteckter Dualismus, der Gegensatz von "Materie und Energie," den auch er nicht aus der Welt schafft, sucht er zu vertuschen, indem er ihn in dem gelehrten Begriff "Substanz" zusammenfasst. Dass damit gar nichts gewonnen wird, sieht er nicht, auch nicht, dass dieser Dualismus nur durch den Theismus viel besser "monistisch" aufgelöst wird.'—*Die Wahrheit über Haeckel*, p. 97 note.

may, therefore,' he says, 'ascribe sensation to the constituent atoms of matter.'¹ But this 'short and easy method' of accounting for sensation, turns out to be a more important item in the Monistic philosophy than would at first appear. Consider the following:

The dualist metaphysic has rightly said that the mechanical philosophy does not discover the inner causes of these movements. It would seek these in psychic forces. On our monistic principles they are not immaterial forces, but based on the general sensation of substance, which we call *psychoma*, and add to energy and matter as a *third attribute of substance*. I am convinced that sensation is, like movement, found in all matter, and *this trinity of substance* provides the safest basis for modern monism. I may formulate it in three propositions: (i) No matter without force and without sensation. (ii) No force without matter and sensation. (iii) No sensation without matter and without force. *These three fundamental attributes are found inseparably united throughout the whole universe*, in every atom and every molecule. In thus uniting sensation with force and matter as an attribute of substance, we form a *monistic trinity* and are in a position to do away with the antitheses that are rigidly maintained by dualists between the psychic and the physical, or the material and the immaterial world.²

Now at last we know where we are.³ The merit of lucidity cannot be denied to the above statement. Dualism—the real dualism which lurks under the appellation of Monism—has been tried and fails. It will not work. Facts are too strong even for its

¹ *Wonders*, p. 307.

² *Ibid.*, pp. 464, 465, 468

³ And Professor Adickes is well supported in his avowal (p. 74): 'Der Zwang der Thatfachen erweist sich als zu gross. So gern Haeckel es wollte; in Wirklichkeit kann er doch mit den physikalisch-chemischen Kräften nicht auskommen. Und wenn man nun noch andere, spezifisch organische, zulässt: kann dann noch mit recht von Monismus gesprochen werden?'

innumerable reiterations. Somehow or other, sensation must be got in. Again, one would have thought that a philosophy capable of swallowing the camel—carry back *all phenomena without exception* to the mechanism of the atom—would not have subverted its whole system to strain out such a gnat. But the fact is plainly before us, that, after having written some thousand pages¹ upon the supposition that the 'matter-force-reality' will account for everything by its 'two sides,' at the last, under sore pressure, like the harlequin upon the stage, the magic wand is waved, and lo! the all-essential and all-sufficient two become three! 'We form a monistic trinity.' And this is final—'the safest basis for modern monism.'

Well, whatever else we may think of this jugglery, it is manifest that Monism is at an end. In his coarse cartooning of the word 'Trinity,' as it applies to Christian conceptions, it pleases this author to say:

It must be carefully noted what confusion this obscure and mystic dogma of the Trinity must necessarily cause in the minds of our children even in the earlier years of instruction. One morning they learn (in their religious instruction) that three times one are one, and the very next hour they are told in their arithmetic class that three times one are three. I remember well the reflection that this led me to in my early days.²

How can we now do less than invite him to apply those reflections, so well remembered, to his own system? It is no part of our task here to defend the Christian

¹ In the three English works, *Confession*, &c., *Riddle*, &c., *Wonders*, &c.

² *Riddle*, p. 98.

doctrine referred to. But it certainly is to the point to suggest that if it be so emphatically a 'dangerous and untenable myth' to teach that 'three times one are one' in religious matters, it is even more so in systems that profess to represent exact science and infallible philosophy. And if Professor Haeckel thinks himself warranted in saying elsewhere :

He found in the dogma of the Trinity what every emancipated thinker finds on impartial reflection—an absurd legend which is neither reconcilable with the first principles of reason, nor of any value whatever for our religious advancement¹—

he must not be surprised when we inform him that this is what we find far more demonstrably in the trinitism by which alone he can make his pseudo-monism workable. With good reason does Du Bois Reymond not only accuse him of 'sinning against the first rule of philosophy—*Entia non sunt creanda sine necessitate*—but also ask, 'What is the use of consciousness if mechanics are sufficient? And if atoms have sensation, what is the use of organs of sense?'² We need not dwell upon this final and 'safest basis for modern monism.' It may best be left to itself, representing as it does nothing beyond the attempt to bolster up one unwarrantable assumption by another yet more desperate..

14. Again: there is nothing in either the potency

¹ *Riddle*, p. 101. This is but one specimen out of hundreds of what he and his champion consider to be not attacks upon Christian faith, but 'defences' from its 'onslaughts.'

² See *Natural Theology and Modern Thought*, J. H. Kennedy, p. 70.

or the *promise of most recent science* to make these assumptions any more permissible or respectable.¹

When, indeed, this 'modest guide' deliberately prints that 'every unprejudiced thinker who impartially considers the solid progress of our empirical science, and the unity and clearness of our philosophic interpretation of it, will share our view,'² one does not know how to take such bombast seriously. It must suffice here to remark that the immodesty of such statement is only equalled by its untruthfulness. Not only are numbers of the ablest men entirely opposed to this 'view,' but the trend of development in modern physics promises no support whatever to the Haeckelian trinito-monism. True scientific or philosophical modesty to-day would suggest, with Dr. Keeling, that 'on such imperfect and fluctuating information as science has hitherto been able to furnish, it is hazardous to risk a philosophy which professes to give the only tenable theory of the universe.'³ Modern research—with all its electrons—only emphasizes Professor Tait's avowal, some years

¹ Mr. McCabe's manifest anxiety to abet his author, leads him to append a note to his translation, on p. 463 of *The Wonders*, in reference to 'the foolish notion circulated in this country that the recent discovery of radio-action, and the composition of the atom from electrons, has affected Haeckel's position. His monism is completely indifferent to changes in the physicist conception of the nature of matter.' One can well understand how a Monism built upon such assumptions can be indifferent to anything. But the notion would be still more 'foolish' if it be suggested that there is anything in radio-action likely to warrant the trinitism which constitutes 'the safest basis for monism.'

² *Riddle*, p. 129.

³ *Some Ways of looking at Matter*, p. 13.

since, that 'we do not' know, and are probably incapable of discovering, what matter is.' And in spite of the boundless self-assurance which so markedly characterizes the prophets of Monistic trinitism, Professor Ward's recent summary is thoroughly justified :

Matter is here [in the mechanical scheme of science] at length wholly resolved into form, and what we have left is not the perceptible but the conceivable simply. And concepts without percepts—as Kant was fond of saying—are empty, thoughts not facts. The progress of science has in this way unconsciously refuted its own naïve assumption. For long it seemed to be advancing nearer to the empirical reality which sense-perception was held merely to symbolise: in the end it turned out that unawares this reality had somehow been left wholly behind, had slipped away, as it were, between the experimenter's fingers and the mathematician's equations.¹

For what—if one may dare to attempt a brief summary—is the present position as regards matter? The Daltonic atom is gone. 'Within a century of its acceptance as a fundamental reality, it has suffered disruption.' When, therefore, Haeckel assures his readers that 'without the assumption of an atom-soul the commonest and most ordinary phenomena of chemistry are inexplicable,' we are driven to suggest that, there being no final and indivisible atom, there can be no 'fundamental atom-soul.' The only shift for the Monism which, we are told, is not particular what it does in physics, is to create now the electron-soul and attribute to it sensation and will. This should be a somewhat serious feat even

¹ *Hibbert Journal*, October, 1905, p. 96.

for Monistic 'speculation,' bearing in mind that, as Mr. Balfour has pointed out:

The atom is now no more than the relatively vast theatre of operation in which minute monads perform their orderly evolutions; while the monads themselves are not regarded as units of matter, but as units of electricity; so that matter is not merely explained, but explained away.¹

But if matter be thus 'explained away,' what becomes of the omnipotent 'matter-force-reality'? And still more of the matter-force-reality's soul, sensation, and will? Electricity, we are told, 'is now thought by many to constitute the reality of which matter is but the sensible expression.'² The problem for Monism, then, is to find the soul of electricity. If we accept such a view as Mr. Balfour indicates, 'this,' in the language of Professor Lodge's Romanes Lecture:—

When established, will be a unification of matter such as has through all the ages been sought; it goes farther than had been hoped, for the substratum is not an unknown and hypothetical protyle, but the familiar electric charge. Nevertheless, of course, it is no *ultimate* explanation. The questions remain, what, then, is an electric charge? what is the internal structure and constitution of an electron? wherein lies the difference between positive and negative electricity? and what is their relation to the ether of space? (p. 13).

15. This brings us to Monism's last refuge—the *potentialities of ether*. According to Haeckel's emphatic statement,³ 'the three fundamental attributes

¹ *Presidential Address to the British Association*, 1904, p. 18.

² Thus Professor Duncan puts it into simple formula (*The New Knowledge*, pp. 179, 181):

'Matter is made up of electricity and nothing but electricity.'

'The one sole unalterable property of matter is inertia.'

'Inertia is purely electrical in its nature.'

³ *Wonders*, p. 465.

of substance are matter, force, and sensation. These are found inseparably united throughout the whole universe, in every atom and every molecule.' But latest science, we see, says that 'matter is explained away, as being electricity and nothing but electricity.' So that 'the three fundamental and inseparable attributes of substance are' now 'electricity, force, and sensation.' This will be a new sensation to most trained physicists. But the 'matter-force-reality,' which we were told had two sides, now has to have three sides, and one of the sides is electricity. Yet, again, as electricity itself has two sides, positive and negative, it would seem that, really, 'substance' must be four-sided. And seeing that if these 'sides' are taken away there is nothing left, Monism thus manifestly becomes quadruplism.

But we are driven, as Sir Oliver says in his Lecture, to go farther and ask, What is electricity? Well, 'What positive electricity is nobody knows, unless the statement that it is a mode of manifestation of the all-pervading ether constitutes knowledge, though even this we do not certainly know.' Whilst as to negative electricity all that can be said is that it consists of separate definite units. 'These units, if they could be obtained in a state of rest, would, it is deemed, have no mass whatever. Whether under these conditions they would have spatial dimension, is not known.' But 'a unit of electricity in motion carries along or drags with it a portion of the surrounding ether. This bound ether, carried by the moving negative unit, is what we call mass.' This

being so, we are in a position to appreciate what Haeckel says elsewhere,¹ viz. that 'the two chief types of substance are ether and mass.' Mass, then, being nothing but dragged ether, the two chief types of 'substance' are ether dragged and ether not dragged. To which no doubt Monism can adapt itself. But, meanwhile, where do 'sensation' and 'will' come in? To assume either that they inhere in ether, or that they spontaneously evolve along with atoms, by means of some pyknotic theory, out of ether, is absolutely without any warrant beyond the Monistic imagination. All science and philosophy together do not yield a more colossal instance of sheer assumption than the conclusion of Haeckel's eight 'hypotheses concerning ether,' viz. that 'it is in *eternal* motion, and *this specific motion of ether* is the ultimate cause of *all* phenomena.'²

In plain speech, what do we know of this wondrous ether? The true answer is—nothing. Professor Haeckel is himself driven to confess that 'the views of the most eminent physicists who have made a special study of it are extremely divergent; they frequently contradict each other on the most important points.' But all that sober science can say is that—

The ether is what it was—the hypothetical, but none the less believed in, medium of extreme tenuity and elasticity diffused throughout all space, the medium for the transmission of radiant energy.³

¹ *Riddle*, p. 82.

² As if 'eternal' and 'specific' were perfect synonyms, mark how one is meekly substituted for the other in this modest summary.

³ *The New Knowledge*, p. 250.

Meanwhile, Haeckel, acknowledging that he is herein no expert, affirms that 'ether has probably no chemical quality, and is not composed of atoms.' Yet Professor Mendeléeff, 'the doyen of chemical science,' avers that it 'is actually the lightest and simplest of the elements, and a definite form of matter.' Why, then, should we be called upon to accept without demur and build our conception of the universe upon the former? If Mendeléeff's authority is to prevail in chemical physics, as we are often told that Haeckel's should in biology, we are brought to an interesting impasse. Matter is nothing but electricity. Electricity consists of a unit of motion dragging with it a portion of the ether. The 'non-atomic' ether consists of 'a peculiar all-permeating gas, a definite form of matter, whose atoms travel with enormous velocities.' The settlement of such problems is in every sense beyond us here. But it is equally within our range and our competency to point out, that, accomodating as Monism may be in its profession of chameleon-like adaptation to any future discovery, there is no indication whatever of the approach of any development in physics likely to endorse its trinitism, or permit us to 'trace back all phenomena, without exception, to the mechanism of the atom.'

16. Finally; as regards the joint mystery of mind and matter which Monism so strenuously seeks to crush into one 'gloomy problem of substance,' it cannot be too plainly averred that such a proceeding is utterly useless for the main Monistic purpose, viz.

the substitution of materialistic-panteism for theism, as the true philosophy of the universe. Mr. Kennedy has put the case in succinct summary thus :

It is strange that Haeckel should have persuaded himself that he was erecting a barrier against supernaturalism by propounding this theory. It concedes the possibility of the action of will on nature ; and it pronounces this causal action of will to be the only possible explanation of the attraction and repulsion of atoms, and of the molecular movements which are investigated by chemistry. Now, modern physical science regards all the phenomena of matter as capable of being resolved into these fundamental movements of the atoms. The necessary development of this theory would be the recognition of will as the original cause and explanation of all material phenomena. But as this multiplicity of wills would not in the least help to explain the unity and order of nature, these characteristics would also demand an explanation ; and the previous recognition of will as the only cause which can account for motion, would involve our seeking in the same direction an explanation of the order and unity apparent in the motions of the universe as a whole. This would afford a basis as broad as the universe for the analogical argument which infers one intelligent will as the original cause of the universal cosmos.¹

Nothing is more easy, nor is anything more un-philosophical, than the customary assumption of 'the eternity of matter and force.'² To put forth in loudest fashion a theory of the universe 'from end to end,' and then, when it comes to the ultimate foundation and explanation, assert that everything is as it is

¹ *Natural Theology and Modern Thought*, p. 71.

² Thus Mr. D. Hird (*An Easy Outline of Evolution*, p. 186) says calmly, 'Recognizing always that matter and motion are eternal, we no longer look for a beginning, neither do we look for an end to the universe.' A few pages before, Mr. Hird quotes with satisfaction Professor Karl Pearson's verdict that 'science has reduced the universe not to those *unintelligible* concepts, matter and force, but to the very intelligible concept of motion. All that we know of mass is its measurement in

because it always was, is assuredly the feeblest of philosophies upon the weakest of foundations.

It has been well said of Sir Isaac Newton, that—

No mind was ever so intimately and profoundly conversant as his with the subject of matter and motion. The intellect which grasped the idea of the primary force which rules the movements of all the bodies of the universe, which measured it and discovered its laws, was capable beyond that of any other man of realizing the constitution of force in the abstract, and the extent and mode of its operation. Yet that intellect utterly rejected the conception of force as dependent upon matter, or as independent of the will and action of God.¹

It is vain for Monism to protest that it does not contemplate the dependence of force upon matter, so long as it makes all things depend upon a hypothetical and inconceivable 'substance,' the 'essence' of which 'becomes more mysterious and enigmatic the deeper we penetrate into the knowledge of its attributes.' If the 'attributes' of substance are anything at all, they are the expression of its 'essence.' So that, if the latter be purely hypothetical, necessarily the former are so too. But even granting their reality, how futile is the 'speculation' which calls itself 'constructive monism,' we see in the fact that it really never advances beyond dualism, and in the end is compelled to help itself out by 'the

motion.' So that, on this very high authority, the philosophy of the universe is to be found in two concepts as 'unintelligible' as 'eternal.' Whilst if there can be a huger assumption than the eternity of matter, it is surely the eternity of motion; seeing that out of such motion, without any guidance or help *ab extra*, 'all phenomena without exception' have to be evolved—of course including matter itself.

¹ See W. F. Wilkinson, *Modern Materialism*, p. 45.

adoption of sensation as 'an inseparable element in the monistic trinity.' Thus the hypothetical 'essence of substance' issues in a hyper-hypothetical trinitism, for which neither science nor philosophy provides any warrant whatever.

We see, therefore, how accurately the much-belauded conception of 'substance' is described in Haeckel's own terms. It is indeed a 'gloomy problem.' The gloom arises naturally and necessarily, from the density of the Monistic fog in which it is enwrapped. But there is not only less gloom, there is much more truth, in the final finding of Mr. Bradley, in his *Appearance and Reality*, as above quoted.¹

Outside of spirit there is not, and there cannot be, any reality, and the more that anything is spiritual, so much the more is it veritably real.

Nor 'to an unprejudiced mind'—to employ one of Haeckel's favourite phrases—can there remain any doubt whatever that the same writer's strong avowal—

When phenomenalism loses its head and, becoming blatant, steps forward as a theory of first principles, then it is really not respectable. The best that can be said of its pretensions is that they are ridiculous.²

applies *a fortiori* to the monism of Professor Haeckel, and its chameleon-like fetish—'substance.'

¹ v. p. 210.

² See Professor Ward's *Naturalism and Agnosticism*, v. ii. p. 292, i. p. 64.



IX

MONISM AND CHRISTIANITY

‘Und wo wahre Wissenschaft ist, da ist auch für den Glauben Platz.’

PROFESSOR ADICKES, *Kant contra Haeckel*, p. 128.

‘With an enlarged view of life, with the growth of democracy, with better knowledge of other peoples and nations, the Confucian idea of benevolence—dare I also add the Buddhist idea of pity?—will expand into the Christian conception of love. The profit and loss philosophy of utilitarians and materialists finds favour among logic-choppers with half a soul. The only other ethical system which is powerful enough to cope with utilitarianism and materialism is Christianity, in comparison with which Bushido, it must be confessed, is like “a dimly burning wick” which the Messiah was proclaimed not to quench, but to fan into a flame. The domineering, self-assertive, so-called, master-morality of Nietzsche, itself akin in some respects to Bushido, is, if I am not greatly mistaken, a passing phase or temporary reaction against what he terms, by morbid distortion, the humble, self-denying slave-morality of the Nazarene.’

PROFESSOR NITOBÉ, *Bushido, the Soul of Japan*, pp. 186, 190, 191.

‘Nothing will do except righteousness; and no other conception of righteousness will do, except Jesus Christ’s conception of it—His method, His secret, and His temper. Yes, the grandeur of Christianity and the imposing and impressive attestation of it, if we could but worthily bring the thing out, is here: in that immense experimental proof of the necessity of it, which the whole course of the world has steadily accumulated, and indicates to us as still continuing and extending. The kingdom of Christ the world will have to become, it is on its way to become, because the profession of righteousness, except as Jesus Christ interpreted righteousness, is vain.’

MATTHEW ARNOLD, *Literature and Dogma*, cheap edition, pp. 114, 115.

‘No man can run up the natural lines of evolution without coming to Christianity at the top. One holds no brief to buttress Christianity in this way. But science has to deal with facts, and the facts and processes which have received the name of Christian are the continuations of the scientific order, as much the successors of these facts and the continuations of these processes—due allowances being made for the difference in the planes, and for the new factors which appear with each new plane—as the facts and processes of biology are of those of the mineral world. We land here, not from choice, but from necessity. Christianity—it is not said any particular form of Christianity—but Christianity, is the Further Evolution.’

HENRY DRUMMOND, *The Ascent of Man*, p. 439.

IX

MONISM AND CHRISTIANITY

It must be manifest, even to those least accustomed to consecutive thought, that the matters considered in previous chapters have most important bearing alike upon creed, character, and conduct. One cannot wonder, therefore, that the Monistic champion should provide a chapter upon 'The Ethic and Religion of Monism.' How Monism can with any propriety be said to have, or be, a religion, is a riddle indeed. But so far as relates to ethics, its attitude is clear and uncompromising. It is unequivocally and necessarily committed to the modern 'determinism' which reduces man to the mechanical product of his heredity and environment. But in face of all the problems, social, civic, and national, as well as religious, which are bound up with this question, it is far too great and complex a matter to be satisfactorily discussed in any single chapter. It will, therefore, be fairly and fully considered elsewhere.¹

As much of these themes as is necessary for our present purpose, will be included under the relations of Monism to Christianity.

¹ In a separate volume, to be shortly announced.

Here it might seem as if the trenchant brochure of Dr. F. Loofs,¹ which is now open to the perusal of every English reader, would save us the trouble of any further consideration. Apart, however, from the greatness of the theme, the criticisms of Dr. Loofs have been in such truculent popular fashion criticized by Haeckel's champion, that it becomes an essential part of our unwelcome task, to face to the uttermost this latest joint onslaught upon Christian verities.

When we have dismissed—after the briefest consideration consistent with faithfulness—the dogmatisms, misrepresentations, errors, and personalities, which are thus presented in the name of Monism, five themes will demand as careful scrutiny as can be accorded to them in few pages. These are (i) The Gospels in modern light; (ii) the origin and character of Christ Himself; (iii) the essentials of Christian doctrine; (iv) the facts of Christian history; (v) the truth concerning the Christian outlook. Each of these is confessedly rather the subject for volumes than for paragraphs, but we may at least point in the directions in which further study will avail to rebut Monistic allegations.

In no portion of his works are the unmeasured dogmatisms of Professor Haeckel, which his advocate meekly denominates 'matters of opinion,' so

¹ *Anti-Haeckel, an Exposure of Haeckel's Views of Christianity*, published by Hodder & Stoughton (for the original, Verlag von Ma Niemeyer, Halle). Dr. Friedrich Loofs is Professor of Church History at Halle.

pronounced as in his references to Christianity. Of these the famous 'seventeenth chapter' of *The Riddle* is the chief though by no means the only expression. It is a light matter for him to write in this strain:

Religious faith always means belief in a miracle, and as such is in hopeless contradiction with the natural faith of reason.¹—The whole field of theology is incredible, whilst as regards the religion of the New Testament, *equally with* the religions of India or Egypt—the truth which the credulous discover in them is a human invention: the childlike faith in these irrational revelations is mere superstition.²

After this, it would seem that there was no more to be said. But Monism knows the value of reiteration. So we read again and again, *ad nauseam*, that 'all Christian dogmas contradict pure reason'; that all 'the so-called revelations on which these myths are based are incompatible with the firmest results of modern science': in short, that all 'progress in the aesthetic enjoyment of nature' and all 'higher mental development' imply advance 'in the direction of our monistic religion.'³

¹ *Riddle*, p. 107.

² p. 109.

³ Perhaps the crowning instance of this dogmatic assumption of infallibility is given us by his champion, who suggests (pp. 82, 84.) that 'when a man has reached a conviction that God is a myth, he is neither logically nor morally expected to ask himself seriously whether Christ or Christianity is divine.' So that 'For Haeckel, it is legitimately a foregone conclusion that Jesus was a human being, born in a normal manner.' Of course in such a case the falsity of all Christian doctrines is no less 'a foregone conclusion.' The calm assumption of infallibility wherewith thus to sweep away, at a stroke, every single consideration comprised under the general notion of Christian evidences, is truly Monistic.

Weightless, however, as are these mere assertions, they take on a character which cannot but be offensive to impartial minds, when we find them continually associated with gross misrepresentations and indefensible errors. We may well ask, for instance, what is to be said concerning this Monistic representation of Christianity :

And it is this Universal Father who has himself created the conditions of heredity and adaptation, in virtue of which the elect on the one side were *bound* to pursue the path towards eternal bliss, and the luckless poor and miserable on the other hand were *driven* into the paths of the damned.¹

The italics are his own. They serve well to emphasize the mendacity of such a representation.² The system that requires for foundation such a distortion of the truth, is really unworthy of further consideration. Unfortunately it is but a specimen of others continually recurring. Here is another :

As Christianity depreciated this life, and said it was merely a preparation for the life to come, it led to a disdain of culture and of nature ; and as it regarded man's body only as the temporary prison of his immortal soul, it attached no importance to the care of it.³

Quotation is unnecessary to show how the New Testament gives the lie direct to this slander also.⁴

¹ *Riddle*, p. 74.

² Mr. McCabe waxes indignant (p. 82) at the use of this term. Yet on the very same page he tells us that Haeckel 'decides to cast a *critical* glance' at Christianity. So that the above monstrous cartoon did not arise from ignorance.

³ *Wonders*, p. 483.

⁴ Although these pages are certainly not written from the standpoint of the Romish Church, yet one cannot but protest also against the indiscriminate and reckless calumny that 'the aim of Romanism is to-day, as it was a thousand years ago, to dominate and exploit a blindly believing humanity.'

But since the publication of the slashing popular appeal to which we have so often referred, it becomes practically impossible to dissociate Haeckel's words from those of the self-authorized defender. On behalf of the mixture of ignorance, prejudice, and falsity, which constitute the substance of the seventeenth chapter of *The Riddle*, the latter pleads that Haeckel 'merely skims the surface of a vast historical subject.' But the Professor's own words are, 'It seemed to me necessary to *enter fully* into this important question of the origin of Christ, in the sense of impartial historical science.' So that when the special pleader goes farther and says that—

Haeckel gathers from a group of German works or translations points of criticism in regard to these dogmas, and briefly, with a light satire that evinces the absence of prolonged research in this department, fires them at the popular beliefs,

and sets this up as a fair and true account, the reply is best put into his own words—'The trained thinker sweeps aside such tactics as an impertinence.' It is but the bathos of one-sided prejudice. The ire of so eager a partisan at the thoroughness of the exposure of his master's ignorance, is easily understood. But he is quite mistaken in imagining that the hurling of savage epithets at the writer, will, in the least degree, mitigate the effect of such exposure.¹

¹ On p. 88, he regrets that 'one is incompetent to borrow some of the phrases of Dr. Loofs.' How little need there was for such regret the reader would perhaps like to appreciate for himself. Amongst other expletives we find him referring to 'the extreme coarseness and ugliness of the German original.' The objections of competent critics are characterized as all 'dust-throwing and mud-throwing,' making

Let us now take the measure of Haeckel's authority for the most scurrilous statements in this astounding chapter. 'His unfortunate reliance on Saladin,' meekly says his champion. But two notes must be made. (i) Is this statement true?—

To have been misinformed as to the weight and qualifications of a foreign writer, on a subject completely outside his own territory, and to have neglected to verify his information, is the full extent of Haeckel's delinquency.

No; it is not true. For even since the unanswerable exposure of his errors by Dr. Loofs, in substance he still maintains the same.¹

As to the actual grounds alleged by Dr. Loofs for his scathing indictment, we must refer to his own

'one of the most disgraceful episodes of this dreary controversy.' Their 'tactics are malignant and dishonourable,' &c. &c. But in regard to Dr. Loofs even his vocabulary fails him; he gets no farther than 'one of the coarsest and most painful publications that have issued from a modern university' (p. 82). The reader will do well to procure it, and carefully peruse the whole. Whether then he approves of all the expressions employed or not, he will know how to appreciate the accuracy of this champion who tells his 'untrained and uninformed readers,' that 'Dr. Bischoff supports Haeckel with his expert knowledge,' whereas we find in Dr. Loofs's brochure (p. 51) that this same Dr. Bischoff wrote to Dr. Loofs to explain 'his inexcusable haste' and 'expressed regret for his procedure.' See p. 44 of the German original.

¹ This Mr. McCabe is pleased to deny. Let the reader judge. 'He has acknowledged those defects, and has inserted in the cheap German edition a notification that the authority he followed on this and the following question was unsound.' That edition is before me and these are his words (p. 167): 'Wie weit dieser sachlich berechtigt ist, vermag ich nicht zu entscheiden, da die spezielle Theologie mir zu fern liegt. Ich kann nur entgegen, dass erstens Saladin *unwissenschaftlich* ein sehr vielseitig gebildeter Theologe ist, und dass andererseits seine unumwundene Kritik der Bibel, besonders der klare Nachweis unzähliger Irrthümer und Widersprüche in diesem "Wort Gottes," dem unbefangenen gesunden Menschenverstand ohne Weiteres einleuchtet.'

pages. The skilled translator of it¹ has said with truth that, 'Disagreeable as it could not fail to be, the work has been done in such a fashion that it will never need to be done again.' And the author's thoroughly substantiated conclusion is to this effect:

The seventeenth chapter of his book, taken by itself, is enough to prove that Professor Haeckel is destitute of the knowledge, the feeling, and the conscience, needful for the discussion of the highest questions which have stirred the mind of man.'

(ii) Strong as are Dr. Loofs's words, they are only too well justified. Haeckel not only relies upon Saladin as his authority, but still pronounces him an 'erudite theologian' whose dissertations upon the Bible are 'decidedly edifying.' Let us, with apology to the reader, take one specimen, by no means the most pronounced:

The holy men of God—the Ezras, the Pauls, and the rest of them—sitting pen in hand, with terribly distended abdomens, producing the Bible, is a burlesque. In beatific vision I beheld the holy men of God who spake as they were moved by the Holy Wind; each time they dip their pen into the ink with the one hand, they give their abdomen a blow with the other hand, to try whether it is tense enough to emit the drum-like sound indicative that the possessor is just in the proper key for Bible writing.'

¹ H. R. Mackintosh, D.Phil. (Edinburgh).

² p. 58, English edition.

³ No doubt Mr. McCabe will be ready with the rejoinder that in the latest popular German edition Haeckel has expressed his disapproval ('missbilligen') of Saladin's attacks on the Bible. But how far this disapproval goes may be judged from the following, still retained (p. 131) in this edition, though wisely not translated into English by his champion: 'Demnach würde dieser seltsame Gott sowohl zur Mutter als zur Tochter in den intimsten Beziehungen gestanden haben; er müsste mithin sein eigener Schwiegevater sein (Saladin).' So, again, in regard

As to the 'tone' of Professor Loofs's criticism, the reader must form his own estimate of the reasons given.¹ The facts of the case, alas! only too plainly warrant his severe conclusion:

In the chapter of his book which I have examined, Professor Haeckel, by his use of the most shamelessly vile literature, by his dogmatical judgements, coupled with the most disgraceful ignorance, and by a tone which is utterly discreditable in scientific discussion, or anywhere else, has shown that he does not possess a healthy scientific conscience (ein normales wissenschaftliches Gewissen).

to the Annunciation: 'Svoboda sagt darüber. "Der Erzengel spricht da mit einer Aufrichtigkeit, welche die Malerei zum Glück nicht wiederholen konnte. Allerdings gab es auch Maler, welche für die embryologischen Betrachtungen des Erzengels Gabriel in ihren Darstellungen volles Verständniss bekundeten."' Can there be any more confirmatory comment upon the words of Dr. Loofs, than the inclusion, in a work professing to be scientific and philosophical, of such foul suggestions as these?

¹ English edition, p. 59.

² p. 58. Whether his champion possesses such a conscience also, I leave to the reader's judgement to pronounce, from comparison of the following. Concerning the late Professor Romanes, Mr. McCabe is pleased to intimate that his return to Christian faith was but due to the 'sad reflections of a suffering and diseased condition.' And he adds, 'As he says, it was by the sacrifice of his intellect, by ignoring his scientific temperament, by an effort of his will, that he succeeded in assenting to what he calls "pure agnosticism"' (*Haeckel's Critics Answered*, p. 122). Now let any reader take in hand the well-known *Thoughts on Religion*, and consult pp. 143, 154, 157, 159, 160, 167, and he will know how to appreciate the cant of the Monism which on the same page can sneer with lofty indignation at the untruthfulness of Christian writers. By the side of the extract above given, put these words of Romanes: 'In every generation it must henceforth become more and more recognized, by logical thinking, that all antecedent objections to Christianity founded on reason alone, are *ipso facto* nugatory. Now all the strongest objections to Christianity have ever been of the antecedent kind.'

When, further, this writer exclaims, 'If these things are not untruths, one wonders what is'—let us have the full statement from which the words 'pure agnosticism' are so conveniently extracted:—The intellectual attitude towards Christianity in these notes may

I. We now come to consider the first main topic calling for direct attention, in the chapter of *The Riddle* before us.

The following statement still remains before the British public:

We now know—as to the four Canonical Gospels—that they were selected from a host of contradictory and forged manuscripts by the 318 bishops who assembled at the Council of Nicaea in 327. . . . As the contending and mutually abusive bishops could not agree about the choice, they determined to leave the selection to a miracle.¹

Such an affirmation, introduced by 'we now know' from a 'great thinker,' cannot but deeply impress 'the average inexperienced reader,' to whom Mr. McCabe so often refers. He will take it to be equally true and serious. Meanwhile, the fact is that every single item of the avowal is false. There was no Council of Nicaea 'in 327'; there were not certainly and precisely '318 bishops' when the Council did meet; they were not, as regards the Canonical Gospels, either 'contending' or 'mutually abusive'; they did not determine to 'leave the selection to a miracle'; and as a matter of fact there was no

be described as (1) pure agnosticism in the region of the scientific reason, coupled with (2) a vivid recognition of the spiritual necessity of faith and the legitimacy and value of its intuition; (3) a perception of the positive strength of the historical and spiritual evidences of Christianity. George Romanes came to recognize, as in these written notes, so also in conversation, that it was reasonable to be a Christian believer before the activity or habit of faith had been recovered.' Is this Monistic champion prepared to affirm that Bishop Gore also is a liar?

¹ *Riddle*, p. 110. Italics mine.

deciphering of literary-historical problems in the domain of primitive Christianity, simply because all that can be made out in this region has already won universal recognition—viz. the fact that *essentially*, and apart from *a few unimportant exceptions*, *tradition is right*.

As additional and sufficient specimens of what Monism considers an 'answer' to such crushing criticism of Haeckel, we find, first, the general statement allowed to stand—though it is demonstrably false—that 'these Apocryphal Gospels are, he tells the reader, no more and *no less* reliable in themselves than the Canonical Gospels.'¹ Then we have the further assurance, that 'the article on the Gospels in the *Encyclopaedia Biblica* reflects the condition of cultured biblical thought in England'! How any man who writes about 'truth being a frail spirit which must be pursued especially with scrupulous honesty' can make such a statement, is best known to Monism. Every student knows that it is very far from the truth; of this plain proof shall be presently given. As for the sneer—

It is not thought proper to explain that the critics by no means refer to the Gospels as we have them to-day, and that these Gospels consist of earlier and later layers—in plain English, interpolations,²

it is sufficiently answered in the opening words of the very *Life of Jesus* by Renan, which the Rationalist Press Association is so anxious to popularize:

I would close this book about the year 100, at the time when the last friends of Jesus were dead, and when all the books of

¹ Imagine this statement endorsed by a writer claiming to be a scholar!

² *Haeckel's Critics Answered*, p. 88,

the New Testament were fixed almost in the forms in which we now read them.¹

Whilst as to the further innuendo—

It is not considered necessary to explain that the return to the Gospels only means, in the words of Loofs, a return to the sayings of Jesus in the Synoptic Gospels, and that the miraculous legends may be sorted out as unprovable and incredible,

it is as false to fact, as to the general attitude of Professor Loofs. The true attitude of modern criticism is accurately expressed by the late Dr. A. B. Bruce in his volume upon *The Miraculous Element in the Gospels*:

The new criticism renders highly probable the existence of at least one written embodiment of the evangelic tradition, originating in the preaching of the Apostles, antecedent to the Canonical Gospels, and makes it almost certain that the primitive Gospel contained a considerable miraculous element. That element thus appears not to have been the product of faith, but an essential part of the original evangel offered to faith. The miraculous element in the Gospels is no mere excrescence or external adjunct easily separable from the body of the history, but an essential portion of it, closely woven into the fabric, vitally connected with the organism. It is important to notice that all the Gospels, and especially the first three, contain very express intimations that the number of miraculous works wrought was greatly in excess of the number recorded in detail.²

Now, however, we come to a climax of audacity almost without parallel—except perhaps in the works of the Saladin on whom Haeckel openly avows that

¹ *Life of Jesus*, cheap edition, p. 9. But see also the article 'Gospels' by Dr. Stanton in Hastings' *Bible Dictionary*; and the table in Dr. Moffatt's *Historical New Testament*, p. 273, as to the Gospels only.

² pp. 109, 115, 122. The intelligent reader will do well to procure and study the whole volume, or at least chapters iii, iv, ix, and x.

he builds¹—upon which it is indeed difficult to comment calmly.² The 'untrained and inexperienced reader' is assured, with all the air of infallibility, that—

The truth is that the historical value of the New Testament is shattered, and Christian scholars are, as in the case of the Old Testament, retreating upon its ethical value.

The very least that can be said of such a statement as this, is that it is utterly discreditable, alike to the writer and the cause he represents. Every unprejudiced student of the case knows that it is false. But in view of the great importance of the matter, and the sweeping nature of the affirmation, it has been submitted to a number of experts in this subject, whose scholarship and integrity are alike beyond cavil.³ Their estimates of it will be found at the close of this chapter. These will apply equally to the further assertion⁴ that 'the stories of the New Testament are being rapidly reduced to myths.' The 'system' that finds it necessary, or thinks it well, to have recourse to such wholesale and one-sided misrepresentation as this, ceases to deserve consideration in the minds of all who 'search for truth.'

II. The case becomes worse rather than better, when

¹ See Loofs, p. 75.

² The unmitigated slander which here immediately follows—'Well may *The Christian World* complain of the "lack of honesty" in theological literature'—is exposed above (p. 32).

³ This estimate is not in the least lessened by the fact that they do not follow in the wake of Van Manen, or Schmiedel, or the school of acknowledged critical extremists who figure in the *Encyclopaedia Biblica*.

⁴ *Haeckel's Critics Answered*, p. 98.

we come to note Haeckel's treatment of Christ Himself. We have seen how, according to his champion's suggestion, he is to be excused all *a priori* determinations as to Christ's origin and character, on the ground of the infallibility of his own preceding reduction of God to 'an intangible cosmic principle.' He is further credited with describing Christ 'generously,' as a 'noble prophet and enthusiast, so full of the love of humanity'¹; as 'a high and noble personality'² and as 'himself convinced that he was a Son of God.'³ But the true interest of the case turns upon what Professor Haeckel ignorantly calls 'the immaculate conception'—in plain speech, whether Christ was or was not the child of adultery. The crushing exposure of Professor Loofs is best read

¹ With customary 'scrupulous honesty' the writer omits the rest of the quotation—'was far below the level of classical culture.' Whether it be 'generous' to represent Christ as an uncultured enthusiast, let Goethe, Mill, Strauss, Lecky, Renan, and a host of others, decide.

² The 'generosity' of this reference is only truly appreciated when we put it alongside the general statement (*Riddle*, p. 116) that 'special endowments of mind or body often distinguish these children of love'—that is, these results of adultery.

³ The accuracy of this assertion is on a par with all the rest. There is no single instance recorded when Jesus called Himself a Son of God. Nor do the other writers of the New Testament ever so refer to Him. See Matt. xxvii. 43; Rom. i. 4, &c.

⁴ Mr. McCabe's sneer: 'Nay, even Mr. Ballard, B.D., thinks it correct' is as small as it is untrue. The distinction between the virgin birth of Christ and the immaculate conception of His mother, was familiar to me, as a prizeman in Romish controversy, for at least a dozen years before Mr. McCabe entered his monastery. (See also *Miracles of Unbelief*, fourth edition, p. 348, and popular edition, p. 358.) These asides of his, generally, are about as true as his post-perversion avowal (*Twelve Years in a Monastery*, p. 6) that 'Rome alone can now inspire moral heroism.' To say nothing of the poor weak-minded Free Churches, what do his 'rationalist' colleagues think of this estimate?

in his own pages. How utterly its severity was deserved, may be gathered from a single extract. The slander to which Haeckel seeks to commit humanity is that—

Josephus Pandera, the Roman officer of a Calabrian legion which was in Judea, seduced Miriam of Bethlehem, and was the father of Jesus. Other details given about Miriam, the Hebrew name for Mary, are far from being to the credit of the Queen of Heaven.¹

This is taken for granted as true, and is said to be 'all the more credible when we make a careful anthropological study of the personality of Christ.' Further, 'the name of Christ's real father, "Pandera," points unequivocally to a Greek origin; in one manuscript, in fact, it is written "Pandora."'² Then, apparently in complete blindness to his own self-contradiction, we are reminded that 'Pandora was, according to the Greek mythology, the first woman'!³

¹ *Riddle*, p. 116. The following note (see Harris, *Pro Fide*, p. 508) summarizes all that need really be said in answer to this supreme calumny of history:

'This theory is a baseless Jewish slander, the credulous acceptance of which by Professor Haeckel, and other modern rationalists, evinces a complete absence of the critical faculty. The best rationalist opinion decidedly rejects it. Keim says: "No moral taint can have attached to the house. There is not the shade of a suspicion that the house came short in any way, in respect of civil virtues or an Israelite's religious reputation." Dr. Rendel Harris has recently shown that the name of the Virgin's supposed paramour (variously written Panthera, Pantheras, Pandera, Panderas, Pappos, &c.) is simply an anagram of the Greek word παρθένος, virgin.'

² *Riddle*, p. 116.

³ His champion is good enough to suggest at first that 'the supposition that Christ had a Greek father is not a little attractive under the circumstances' (p. 85). Afterwards (p. 124) he opines that 'whether

It is neither necessary nor possible here to discuss the general subject of the virgin birth of Christ, as a Christian doctrine.¹ We are only concerned to rebut the pitiful slander² which Haeckel has adopted *en bloc* from Saladin. This we see plainly to be as unworthy from the standpoint of history, as insulting to the moral sense of humanity.

III. As regards Christian doctrine and influence, again, it is not our task here either to define the former or defend the latter, in general, but simply to meet the allegations of Monism under this head. The assertion that 'the *essential* elements' of Christianity are 'exclusive preparing for an unknown eternity, the contempt of nature, the withdrawal from the

Haeckel has or has not the right version of Christ's paternity, is not an important matter.' A fair specimen of Monistic shuffling. Those who are not Monists will rather think that it is an unspeakably 'important' matter, and that the foul 'Panthera' libel is anything but 'attractive.'

¹ It is well known that Dr. Loofs's own view is, 'The virgin birth belongs to the least credible of New Testament traditions.' Such a view merits respect, not alone because of his scholarship, but as being shared by many others. As good a summary of this position as can perhaps be desired, will be found in Beeby's *Doctrine and Principles*, pp. 122-163. *The Birth of Jesus Christ*, by Wilhelm Soltau, and *The Virgin Birth of Christ*, by Paul Lobstein, are forceful in their statement of objections. On the other hand, it would appear to some to be rather a sop thrown to the modern anti-supernatural Cerberus. That such a procedure is neither necessary, nor effectual, is maintained, amongst other places, in Dr. W. N. Clarke's *Outline of Theology*, p. 263; Griffith Jones's *Ascent through Christ*, pp. 254-70; *Critical Questions*, pp. 123-58; *Miracles of Unbelief*, pp. 34, 39, &c. Harris's *Pro Fide*, pp. 502-8.

² 'Pitiful,' is really too good a term, for Loofs is well warranted in saying that in this matter Haeckel 'has not only given abundant proofs of his ignorance, but he has also associated himself with those filthy Jewish slanderers whom all Jews of good education and position unite with Christians to condemn' (*Jener schmutzigen jüdischen Lästerei*) (p. 53).

study of it,'¹ we have already seen to be utterly untrue. It is indeed unworthy of any man who claims to be both sincere and intelligent. The New Testament may herein be left to speak for itself.

It is no less false to declare that 'modern liberal Protestantism' has taken 'refuge in a kind of monistic pantheism.'² For no Unitarian living, nor even Broad Churchman of the most 'advanced' type, would for a moment accept such a description of his theistic creed. Still more misleading in its falsity, is the further assertion that the conviction has 'rapidly spread that dogmatic Christianity has lost every foundation, and that only its valuable ethical contents should be saved for the new monistic religion of the twentieth century.' In face of all the facts of the case, such reckless rhapsody as this, is small credit indeed to the 'ethics,' let alone the 'religion,' of Monism.³

When an avowed iconoclast, moreover, makes such loud pretensions, ought he not to know that, in this country at all events, the great majority of Christian believers altogether repudiate 'miraculous sacraments, by the mysterious action of which man is supposed to be born again or regenerated'?⁴ If,

¹ *Riddle*, p. 112.

² p. 114.

³ It is, however, all of a piece with the suggestion (pp. 37, 128) that 'the Christian myths and legends' should be taught 'not as truths, but as poetic fancies like the Greek and Roman myths.' Surely Pilate himself could hardly have held truth to be a greater trifle than this Monistic frivolity supposes.

⁴ *Wonders*, p. 442. Here again self-contradiction appears to be a trifle to the writer. Seeing that whilst one moment he represents this doctrine, without any modification, to be that of the Christian Church,

indeed, he—or at least his advocate—does know it, by what principle of Monistic morality is the lesser part represented as the whole?

No one questions that there is a lamentably large amount of Christian profession without practice, in modern Christendom. But it hardly belongs to a system which declares that men are mere automata, 'determined' altogether by 'heredity and environment,' to denounce as a 'religious lie of the worst description' that widespread religious profession which we can only call Pseudo-Christianity.' For how can the mere mechanical incarnation of heredity and environment ever 'lie' at all?

Only two other themes need here be touched. We have already adverted to the bitterness with which Haeckel spurns the notion of a Divine Providence. In this, of course, his advocate supports him. He is reported¹ as saying:

There is absolutely no evidence at all in the universe that the God of mind, or force, will allow His care for any individual to interfere with His inevitable and inexorable plans. God may be Master, but He is not Father. To Him the individual matters nothing. It is only the selfishness and conceit of mankind that allow them to suppose that God can care here and there for these little creeping things—for they are nothing else—on the great canvas of the universe.

But the human philosophy which here, as elsewhere, the next he declares that Romanism—at which the sneering description is evidently aimed—'is a miserable caricature of primitive Christianity.' Without committing ourselves to Romish views, we may at least reply that, as regards 'caricature,' Romanism is manifestly not to be compared with Monism for facility in misrepresentation.

¹ *Christian Commonwealth*, January 21, 1904.

postulates omniscience, is sufficiently self-condemned. The Monistic dogmatism which proclaims in strident tones that 'there is absolutely no evidence at all in the universe'—for anything whatever—simply calls attention to the superficiality of its own conceit. The words of Professor Blackie come forcibly to one's mind:

But before we talk on these subjects in a perplexed or, what is worse, in an inculpatory humour, let us calmly consider what our position in this vast universe really is. It is pretty much like the position of a single anthill in a vast forest.¹

After supposing how a 'particularly sensitive ant' might argue, when a human foot stepping unthinkingly on an anthill crushed that 'architecture of laborious works'—'either there is no God, or a God who delights in mischief,' he adds:

The real fact is that in a vast and varied world, heaving and swelling and ramping everywhere, so to speak, with the most eager vitality, collisions and confusions of vital forces will constantly be occurring, which may produce a certain amount of discomfort to individual existences, or even blow them out altogether, but which prove no more the disorder of the universe, than a skit of a boy's squirt can put out the sun. Who can look nakedly on such logic as this without smiling—'I have the toothache, therefore there is no God'?

But it must suffice here to point out that, beside all else, there is in our world the evidence of Jesus Christ for the reality of the Divine Fatherhood, and the Monism which thinks that it has disposed of that evidence, is merely deceiving itself. Of this, the testimony of many of the noblest unbelievers is

¹ *Natural History of Atheism*, pp. 30, 32.

sufficient guarantee, apart from the conviction and witness of intelligent faith.

It is also worth while to repeat¹—seeing that Christian doctrine stands or falls by the actuality of the Fatherhood of God, as unequivocally taught by Christ—that Monistic objections are just as invalid from their one-sidedness as from their pseudo-omniscience. The affirmation that ‘all the tangible evidence’ is against Divine love and care, and that ‘there is none on the other side,’ is one of those purblind ravings of special pleading which can only injure the cause it would promote. Every day’s life, everywhere, overflows with demonstrations to the contrary.

The doctrine of the Divine Fatherhood carries with it necessarily, as no other doctrine can, the consequence of human brotherhood. This, again became the beginning of the end of slavery, as an ancient and mighty human institution.² All that is best in the ‘ethic and religion of Monism,’ is but a pale shadow of the light and warmth which came into the world through Christ’s unparalleled teaching of the love of God for every man, issuing as it did

¹ See pp. 227-32 supra.

² The usual objection of ‘Rationalism,’ with which Monism identifies itself, is expressed by Mr. Watts (*The Meaning of Rationalism*, p. 76) when he says, ‘Although at the time when Christ is supposed to have lived, the horrors of slavery existed on every hand, he was silent upon this great evil.’ How poor and unworthy is this hackneyed sophistry may be seen by reference, amongst other works, to the chapter upon ‘Slavery’ in C. L. Brace’s *Gesta Christi*; Harris, *Pro Fide*, pp. 510-14; *Social Results of Early Christianity*, Professor C. Schmidt, pp. 75-96, 215-27, 397-404, 428-30, &c., &c.

in the universal Christian maxim 'This commandment have we from Him, that he who loveth God love his brother also.'¹

Well may Mr. Laing say, in his *Modern Science and Modern Thought* :

The highest and most consoling beliefs of the human mind are to a great extent bound up with the Christian religion. We must fall back upon Christianity for any grounds upon which to trust more or less faintly in the larger hope. . . . The teachings of the gospel respecting God and immortality, fit in with and satisfy, in a way which no other ideas can do, many of the best and deepest feelings which have equally been developed in that mind in the course of its progressive ascent from lower to higher things. It remains also that true science, while it can add nothing to this proof, takes nothing from it.²

And the opinion of Haeckel's favourite poet may be taken as final. Said Goethe :

Let mental culture go on advancing, let the natural sciences progress in ever greater extent and depth, and the human mind widen itself as much as it desires—beyond the elevation and moral culture of Christianity, as it shines forth in the Gospels, it will not go.³

IV. Not a little reference is made, in the Monistic

¹ 1 John iv. 21. How superficial and untrue the prejudiced objections of 'Rationalism' can be, is illustrated in the remark that 'Christ's idea of brotherhood was an exceedingly limited one, inasmuch as it was confined to those who believed in him.' Not only is there no New Testament warrant for such a statement, but compare with it the parable of 'The Good Samaritan,' and the vision of Peter (Acts x.) in connexion with Cornelius—not to mention Matt. v. 46-8 and many other passages.

² Chap. ix. pp. 289, 293, 295. It is also issued among the R.P.A. cheap series.

³ *Conversations with Eckermann*, p. 568.

onslaught we are considering, to the history of Christianity. Into this vast and tangled field, however, we need only venture far enough to estimate the accuracy of Monism's main assertions. The unfairness of Haeckel's constant identification of Christianity with ecclesiasticism, whereby he is enabled to describe, with evident gusto, the worst cases and features of Papal history as the natural and fair results of Christian faith, speaks for itself. It is also manifest how at times he contradicts himself, in owning that such characters and procedures were 'only caricatures.'¹ Yet a passing note should be made that this wholesale and truculent denunciation, even of ecclesiasticism, is manifestly and markedly one-sided. It is indeed every whit as false to portray the Church of the Middle Ages as only and wholly vile, as it would be to represent it to have been faultless.²

The debt of modern Europe to the Christian Church is apt to be not a little obscured through the overweening zeal of Protestants on the one hand, and the immodest browbeating of 'Rationalism' on the other.³ But we must waive the detailed illustration of that fact, to pay a moment's heed to the sweeping

¹ The reader will do well to consider ch. v., on 'The Moral Inadequacy of Historic Christianity,' in Canon Henson's *Notes on Popular Rationalism*, pp. 95-113.

² An excellent summary, condensed yet clear, and no less reliable than comprehensive and interesting, will be found in the two volumes of Mr. H. B. Workman entitled *The Church of the West in the Middle Ages* (C. H. Kelly).

³ Mr. John Morley's witness hereto, will be quoted later, p. 584.

assertions which come with wonted exuberance from the pen of Haeckel's champion. He is good enough to inform the modern world that—

The belief in the uniqueness of the growth of Christianity and of its moral and civilizing influence, rests on a mass of untruth and calumny of other religions and sects. . . . This gross misrepresentation of historical truth is the sole reason for the rationalist's playing the devil's advocate. Almost the whole period of Christian history has been treated with similar untruthfulness. The good has been greatly exaggerated; the evil suppressed or denied. . . . Haeckel denies 'that there has been anything unique about the history or power of the Christian religion.'¹

Upon this great and complex theme every earnest and honest student must, of course, form his own judgement. Even if the above insinuation were true, it would be at all events no farther from the truth to exaggerate the good and ignore the evil, than to reverse the process, as 'Rationalism' always and emphatically does. But insinuation is not proof, and we may well leave 'Milman and Döllinger,' &c., to plead for themselves.² One would scarcely think that the historical apprehension or moral appreciation of what is 'ridiculously false,' is confined to one particular advocate of Monism. As to the general witness of history, including the opinion of Schultze that 'in some of the most important provinces of the Empire not more than two and a half per cent. were

¹ *Haeckel's Critics Answered*, pp. 89, 90.

² I have summarized the case elsewhere (*Miracles of Unbelief*, pp. 116-28), and have nothing to withdraw. As to the R.T.S. publications which this writer so 'modestly' pronounces 'rubbish,' the simplest plan will be for the reader to procure No. 40 of the Present-day Tracts, *Is the Evolution of Christianity from merely natural sources credible?* and judge for himself.

Christian at the beginning of the fourth century,' it must suffice here to allow two writers of acknowledged competence to state the other side.

Less than three centuries lay between the first foundation of the first Christian community and the alliance between the Church and the Roman State under the lead of Constantine—an alliance big with loss as well as gain for the gospel, as many since Dante have seen and confessed. But at any rate the rapidity of this progress, whereby Christians advanced from a handful to something like one-tenth if not one-fifth of the population, and to the possession of a moral influence almost equal to that of all the rest put together—this rapidity of advance indicates a marvellous vitality. . . . But even with these facts in mind we are not prepared for the picture of widespread Christianity in the united province of Bithynia Pontus, lying along the southern shore of the Black Sea, which meets us in the official report of the Roman Governor Pliny to his imperial master Trajan, less than twenty years after the death of the Apostle John. Coming from such a source it is above all suspicion of exaggeration. Yet Pliny states that the Christians include many of every age and rank, and of both sexes; that some were of the status of Roman citizens; and that not cities only, but also villages and country districts throughout the extensive area under his authority, were affected as by a contagion. So much so that the temples had been almost deserted and the sacred rites in many cases long interrupted, while a purchaser of sacrificial victims was but seldom forthcoming. Indeed, what had moved the Governor to consult the Emperor was the very number of those whose lives were now at stake as Christians. . . . During the greater part of the second century Christianity was making converts in growing numbers from the more educated classes, particularly among men of philosophic aspirations after unity of life and thought, face to face with the proneness of the natural will to sins of body and mind, and with the riddle of the universe and man's place in it. . . . Celsus himself ends his attack by a virtual admission that Christianity was forging onwards in a way which excited in its foes the fear that ere long it would be too strong to check or repress, and would, in fact, control the destinies of the Empire.¹

¹ Professor Vernon Bartlet, M.A., D.D., 'How and Why the Gospel won Europe,' see *What is Christianity?* (C. H. Kelly), vol. ii. pp. 106,

Yet again, in his *Life and Principate of Nero*, Mr. B. W. Henderson says:

The opinion that no belief, no moral conviction, can be eradicated from a country by persecution, is a grave popular fallacy. . . . Christianity, we conclude, answered man's needs and his cry for aid, articulate or unarticulate, conscious or unconscious, in the early days of the Roman Empire, as did no other creed or philosophy. When, however, we face soberly the question whence came such a creed into existence which could satisfy human wants as no other before or since, and how came the new despised and persecuted religion to overcome perils and dangers of a terrible kind, with no external agencies in its favour and every external agency ranged against it, we do not feel inclined to deduce the rapidity of its growth and its victory over all opponents within the Roman Empire from a mere balance of its internal advantages over its external qualifications. We admit the vigorous secondary causes of its growth, but we have left its origin unexplained, and cannot but see as well the vigour and strength of the forces which willed its destruction and powerfully dissuaded from its acceptance. And there exists for us as historians no secondary or human cause, or combination of causes, sufficient to account for the triumph of Christianity.¹

The truthful picture summarized above, is what Haeckel's advocate thus describes:

When the persecution ceased, and the Christians came out into the light of day, their spiritual poverty was—with few exceptions—a notable feature. Until 323, they quietly proceeded with their proselytic work, like the Manicheans whom they closely resembled, when the conversion of Constantine suddenly gave them an immense advantage. The emperor's conversion is not claimed to have been important either as an intellectual or spiritual phenomenon, but it was supremely important in the political sense. Courtly senators followed his example.

111, 114. All who are acquainted with Professor Bartlett's works will know whether he, amongst a host of others, is not as keenly alive to the 'ridiculously false' as any 'Rationalist.'

¹ p. 357. The rest of this work clearly shows whether the writer's scholarship and impartiality are reliable.

The writer claims to have 'expert knowledge' of the fourth century, and is apparently saved by what he knows from endorsing the following precious specimen of Monistic fairness and accuracy from his master's pen :

The deliberate and successful attack on science began in the early part of the fourth century, particularly after the Council of Nicaea (327)¹ presided over by Constantine—called the Great because he raised Christianity to the position of a State religion and founded Constantinople, though a worthless character, a false-hearted hypocrite, and a murderer.

But it does not require 'expert knowledge' to perceive the 'gravely misleading' character of these innuendoes, or the entire falsity of the main statements. The 'spiritual poverty' of the Christians of that age, and their 'close' resemblance to Mithraists and 'Manicheans' (!), are assertions demanding much more thorough discussion than this style of lofty assuming suggests. But it is decidedly more convenient for Monism than it is true, to affirm that the conversion of Constantine was of no importance 'as a spiritual phenomenon.' The misrepresentation is seen in a moment if we take Haeckel's own estimate of Constantine's character and ask, How, then, came he to be 'converted' at all? The answer is plain to all save the 'Rationalist.' It was because the purely spiritual force which had worked (as above portrayed) at first in the handful of everywhere-despised,

¹ *Riddle*, p. 112. The wrong date for the Council being thus repeated, shows that its former occurrence was not a slip of the pen. The estimate of Constantine well illustrates what was pointed out above, as to Monism's one-eyed vision.

ruthlessly persecuted, politically insignificant Christians,¹ had now grown so strong in its social position and political influence, that it was supremely worth the while of the 'false-hearted hypocrite'—to whom no one has ever denied consummate astuteness—to profess Christianity, in order to consolidate and fortify his imperial power. When the historian as fairminded, say, as Gibbon, finds us a parallel to this whole case, we may begin to consider its 'naturalness.'²

Similarly, when we are told that 'the short reign of Julian showed how far Christianity was from a triumph,' one is driven to affirm that the facts only show such an inference to the Monistic eye. Most observers would draw exactly the opposite conclusion. The following summary by Mr. Foakes Jackson is quite as fully guaranteed by 'expert knowledge,' as anything in the literature of Monism.

As we approach the time when the Roman Empire united itself to the Church, we may fairly inquire into the cause of the

¹ Compare Dill, *Roman Society from Nero to Marcus Aurelius*, c. vi. 'To Juvenal, Tacitus, Pliny, to Plutarch, Dion Chrysostom, Lucian and Marcus Aurelius, the Church is hardly known, or known as an obscure offshoot of Judaism, a little sect who worshipped a crucified Sophist in somewhat suspicious retirement, or more favourably distinguished by simple-minded charity.' These were they who, with 'ridiculous naturalness,' revolutionized the strongest government this world has ever known.

² To the reader who may be disposed to think that Gibbon himself provides us with a sufficient five-fold answer to the question whether the history of Christianity 'admits of being resolved by any philosophical ingenuity into the ordinary operation of moral, social, or political causes,' one may commend the consideration of his suggested 'causes,' at the end of Dr. Newman's *Grammar of Assent*, eighth edition, pp. 457-63.

combination of two organizations hitherto, to all appearance, opposed to one another. The triumph of Christianity by its complete absorption of all mental and religious activities in the Roman world, is one of the most remarkable facts in the history of mankind. Our astonishment is increased when we consider how speedily a highly civilized and educated age changed from Hellenism to Christianity. The conversion of the nations which overran the Roman Empire in the fourth and fifth centuries, though no doubt more rapid, was often due either to actual force or to an appeal to the superstitious terrors of barbarians. But in the first three centuries it is undeniable that many of the most enlightened and cultivated men, were led, after serious consideration, to embrace the new faith. Considering that mankind is always most conservative in the matter of religious prejudices, Christianity appears to have advanced with giant strides between the accession of Marcus Aurelius and the death of Julian. In A.D. 161, when Hellenic philosophy mounted to the throne of the world in the person of the former emperor, Christianity had made comparatively little progress. Two centuries later when Julian, who in character was not altogether unlike Marcus Aurelius, tried to restore the ancient religion, the empire was so completely Christianized that the votaries of Hellenism, nay, the very philosophers and the priests, showed no great zeal to recover their lost influence. At the end of two years Julian was compelled to acknowledge that Christ had conquered.¹

It would doubtless be a light matter for the Monistic champion to characterize this account, along with all others written by Christian historians,² as merely the 'gross misrepresentation of historical truth,' but

¹ *History of the Christian Church to A.D. 461*, p. 179. The thoughtful reader is advised to study the whole of the following chapter, so as to grasp the general situation. See also Dr. Fisher's *History of the Church*, p. 90, and Dr. S. G. Green's *Handbook of Church History*, pp. 201-7. As these pages are being written, news comes of Dr. Green's death. The comment in the daily paper reporting it, is that, besides being 'a profound student of the Bible, his knowledge of history was, to quote one who knew him well, simply overwhelming.'

² See Mosheim's *Eccelesiastical History*, v. i. p. 163.

such literary impertinence is beneath notice. Gibbon, at all events, is no Christian partisan; it will be for the student to consult the rest of the chapters¹ from which these few words are taken, and see how far they affect the plain significance of such extracts.

But the genius and power of Julian were unequal to the enterprise of restoring a religion which was destitute of theological principles, moral precepts, and of ecclesiastical discipline; which rapidly hastened to decay and dissolution, and was not susceptible of any solid or consistent reformation. Julian beheld with envy the wise and humane regulations of the Church; and he very frankly confesses his intention to deprive the Christians of the applause as well as advantage which they had acquired by the exclusive practice of charity and beneficence. . . . The Christians, who had now possessed about forty years the civil and ecclesiastical government of the Empire, had contracted the insolent vices of prosperity and the habit of believing that the saints alone were entitled to reign over the earth. The triumph of Christianity, and the calamities of the Empire, may in some measure be ascribed to Julian himself, who had neglected to secure the future execution of his designs by the timely and judicious mention of an associate and successor.

This will suffice to rebut the Monistic attempts to pour scorn upon Christian history. Nothing of any solid value is presented to disprove the general allegation, that the history of Christianity in the past is as unique as is its position in the world to-day. When all criticism is regarded, and all discount for human nature has been duly allowed, it still remains true that there is nothing like the Christian faith for wonder, for power, for beneficence, in all the records of the religions of humanity.

¹ *Decline and Fall*, &c., ch. xxiii., xxiv.

V. It only remains now to compare the outlook for Christianity, as depicted by Monistic writers, with that which may be fairly augured from facts. Both Professor Haeckel and his champion are, of course, strongly possessed by the assurance which is in some quarters so fashionable, that Christianity is falling into decay. They thoroughly exemplify what Dr. Washington Gladden wrote a dozen years ago:

Voices which are supposed to be influential, are frequently heard asserting the decadence of Christianity and predicting its speedy disappearance. That assertion and prediction have been many times repeated, from the days of Celsus down to Bolingbroke, and Diderot, and Voltaire.¹

Amongst the 'great advances of the nineteenth century to which we may point with pride,' Professor Haeckel tells us,² must be included 'abandonment of the religious fiction of the Churches.' This is echoed by his English advocate with all possible vividness of imagination. In five and a half columns³ the reader is reminded of all that can be gathered from the modern life of London, Paris, Belgium, and Germany, which would point to the 'decay of the Churches,' and show that 'the outworn creed of Christianity' is only waiting for interment. The element of prophecy then comes in to show the fervidness of the writer's desires. 'Christ is

¹ See *Great Religions of the World* (Harper & Brothers), in which very instructive volume the whole chapter upon 'The Outlook for Christianity,' by Dr. Washington Gladden, merits careful attention.

² *Wonders*, p. 416.

³ *Haeckel's Critics Answered*, p. 91.

dissolving,' we are told, year by year.¹ The 'brighter prospect for the Churches with which the twentieth century opened, has wholly faded,' and, 'when the process of dissolution which is still going on is complete, we shall see how little will be left of the figure of the Crucified that has been graven on the heart of Europe for nearly 1,500 years.' 'In a few years men will hear Christian beliefs ridiculed and torn to shreds on every side,' and 'the whole tottering structure of conventional religion and worship will be swept away.' Finally, the whole situation—in view of the fact that, as Dr. Gladden puts it, 'geographers have continued to find a place for Christianity on their maps, and the statisticians do not appear to be able to treat it as a neglectable quantity'—is said to be that those who yet retain their faith 'are basing it upon belief in God and the historical reality of Christ. And year by year the waves of criticism and the tunnels of research are undermining their position.'²

Now, all this tirade admits of being estimated by measurement alike of quantity and quality. Both by appeal to figures and to facts, it may be shown how 'gravely misleading' are all such representations.

In regard to the former, indeed, we are soon informed that all those figures 'are totally worthless' which show the aggregate superiority of the Christian

¹ *Haeckel's Critics Answered*, p. 96.

² This sentence will be best appreciated in the light of the note at the end of this chapter. It is but one of the numberless instances which serve to show what past masters Monists are, like almost all 'Rationalists,' in the art of unmitigated assertion.

religion, in this particular respect.¹ But by what authority are we compelled to accept this writer's assumed dictatorship in the matter? Every conceivable right to be heard belongs, for instance, quite as much to Dr. Gladden when he says:

We are warned against putting our trust in figures. Numerical estimates of the growth of a religious system are not indeed conclusive. Its product must be weighed as well as counted. Yet the figures which show the expansion of Christianity as a world power can hardly be disregarded, although for the early periods we have only estimates.—The last century has added to the adherents of Christianity almost three times as many as were added during the first fifteen centuries. The rate of progress now is far more rapid than at any other period during the Christian era.²

Indeed, in face of facts, there need be no hesitation in characterizing the Monistic affirmation above quoted, with its accompanying estimates, as being itself 'totally worthless.' For if it be inaccurate to reckon nominal Christians as real Christians, by what principle of truth or honesty is it accurate to reckon all nominal Buddhists, or Confucians, &c., as real Buddhists? The assumption upon which the oft-asserted

¹ *Haeckel's Critics Answered*, p. 92. With all the assumption of pious horror and moral superiority the writer exclaims: 'This is a fair illustration of the victories of our apologists. Every one knows that these figures are obtained by lumping together the populations of what are called Christian countries.' May we, then, be permitted to ask whence Haeckel himself obtains his estimate that 'in Asia Buddhism still counts 503,000,000 followers?' The answer is twofold. (1) He gets it from Saladin—whom Mr. McCabe in this case meekly calls 'another writer'—as a 'reliable authority' (1) and (2) Saladin gets them, as 'every one knows, by lumping together' all the population of China as Buddhists, whereas 300,000,000 of them are Confucians.

² pp. 253-4.

numerical superiority of Buddhism is grounded, is, for this very reason, altogether, unwarranted. Thus Professor Giles, who certainly cannot be accused of Christian bias, says :

Buddhism, which may once have been a religion of pure and lofty conceptions, is now, as seen in China, nothing more than a collection of degrading superstitions, entirely beneath the notice of an educated Confucianist. Its tonsured priests are despised and ridiculed by the people, who openly speak of them as 'bald-headed asses.'¹

The differences which confessedly obtain between Christians in the Greek, Roman, and Protestant Churches, are far less than those which divide Buddhists from Confucians, such experts as Dr. Giles and Professor Rhys Davids being judges. When, moreover, we have five independent estimates by competent statisticians, as against that of 'Saladin,' common sense should not be long in making its choice. Thus as to the general total of Christians in the world to-day, Professor Juraschek gives 535,000,000; Professor Hermann Wagner gives 556,000,000; Professor Zeller (Director of the Statistical Bureau, Stuttgart), 534,900,000; Professor Kattenbusch (September, 1905), 540,000,000; and last of all Mr. L. H. Jordan² (November, 1905), 520,000,000. Such an approximation to unanimity, in such numbers, would seem sufficient for ordinary minds. Taking an average of these as the nearest approximation to the truth, the general statement of the comparative

¹ *Great Religions of the World*, 'Confucianism,' p. 28, by Dr. H. A. Giles, Professor of Chinese in Cambridge University.

² *Comparative Religion*, front page (T. & T. Clark).

positions of the great religions of humanity may fairly stand as follows:

Population of the world	1,540,000,000
Christians	533,000,000
Confucians	250,000,000
Hindus	214,000,000
Mohammedans	200,290,000
Buddhists	130,000,000
Various Groups	135,000,000
Taoists	50,000,000
Shintoists	18,000,000
Jews	10,860,000

But there are other ways of viewing the case. To say nothing of the significance of the political fact that 'fifty-five per cent. of the larger nations of the world are under nominal Christian rule'—

The geographers put it in this way. In 1600 the inhabited surface of the earth measured about 43,798,600 square miles; of these, Christians occupied about 3,480,900, and non-Christians 40,317,700. In 1894 the number of square miles inhabited was reckoned at 53,401,400, of which Christians held 45,619,100 and non-Christians 8,782,300.

These facts do not encourage the expectation that Christianity is about to disappear from the face of the earth. If the external signs could be trusted, there would be good reason for believing that the day is not far distant when it will take full possession of the earth.¹

Here, also, would be the place to form some estimate of the work and worth of Christian Foreign Missions. According to the cynical ignorance generally displayed by 'Rationalist' critics, in regard to such efforts on the part of the Churches, one who only knows their statements would think that

¹ *Great Religions of the World*, p. 255.

very little is being done, and that half of that is unprincipled hypocrisy. But, assuming the reader's sincerity, let him acquaint himself with the actual facts, from the standpoint of those who do know, and who have quite as much right as any critic to be considered truthful, and he will soon be disillusioned herein. The whole may be reliably summed up in three words, when we say that (i) all the Churches are doing more on these lines than ever before; (ii) their only embarrassment is the success which attends their work and opens more doors of opportunity than they are financially able to enter; (iii) there is every prospect that the work will be both maintained and increased, at home and abroad, with every passing year.¹

The stress, however, of the prognostications concerning the death and burial of Christianity which so delight the 'Rationalist' mind,² falls even more upon the quality than upon the quantity of modern faith. The general procedure is twofold. It is pointed out, on the one hand, that the great bulk of those who

¹ For fuller information, substantiating the above statement, see the openly published reports of all the great Missionary Societies.

² See the last page of Mr. McCabe's brochure, a conglomeration of gibes and misrepresentations which it would be difficult indeed to parallel. 'Thousands of the clergy of all denominations' are conscious deceivers, and 'we have the spectacle of ecclesiastical scholars of all denominations being forced to disavow the convictions which have crept to their lips.' Such a combination of falsity with slander is truly a pitiful exhibition of what may sometimes be expected when Christian sanctions have been trampled under foot. It is well if 'Rationalism' that there are other representatives of it, such as Mr. G. J. Holyoake, and Mr. C. Watts, whose strong convictions never rendered thus repulsive by the abusiveness of their expression

are called Christians are such only in name; and, on the other hand, that the Churches are departing more or less markedly from the 'orthodoxy' of bygone days. Both these suggestions are true,¹ but neither of them is to the point. For there are four other distinct factors to be taken into account.

1. Whilst it is beyond denial that the majority of those who constitute 'Christendom' are but Christians in name, it neither follows that they are 'wholly beyond the influence' of Christian doctrine, nor that they have 'for ever abandoned' it. As a matter of fact, year by year, thousands of them are being brought into the various Churches, and contribute to their growing numbers.² That the Churches are not 'overtaking the population' may be too true. But this is an entirely different thing from the boasted nemesis of faith.³ However regrettable

¹ The assertions of Haeckel's advocate (p. 126) that 'three-fourths of the people are wholly beyond the influence of the clergy,' and that 'the great majority of the race have for ever abandoned' the Christian religion, are manifestly untrue. They simply represent the eagerness of the writer's anti-Christian virulence.

² For last year (1904-5) the Wesleyan Methodist increase (according to the severe class-meeting test) was 10,726—representing a much larger number of adherents, with additional church accommodation, &c. During the same period the Congregational Churches report increase, whilst from 1895 to 1904 the Baptist Union reports an increase of 60,844 members, 110,902 sittings, 70,511 Sunday scholars, &c. See also *Clarion Fallacies*, p. 193.

³ Thus to write (*Haeckel's Critics Answered*, p. 126) of the present Christian position after this fashion—'Whilst we talk of continuity, the world is deserting it altogether. The moral tone of the clergy is lowered by their corporate alliance with cosmic speculations,' is as false to fact as it is unworthy in suggestion. One would be sorry to think of such an inference as coming naturally from an inner knowledge of Romanism. Most assuredly it is an utter libel in regard to the Free Churches.

Whence comes this purifying, broadening, elevating development? The favourite assertion of 'Rationalism' is voiced, of course, by Haeckel's champion¹ in his affirmation that 'it is the modern rationalist and humanitarian movement that has reformed Christianity.' But to seek to prove such an assertion by pointing us to Spain, however natural for an ex-Romanist, is about as true and fair as to point to Siberia for the explanation of our milder modern treatment of prisoners. No one denies that the Christian faith has been affected by its modern environment, as also have other faiths. But why, in its case alone, has there resulted such a development upwards as is marked on every hand? The true and sufficient answer is that Christianity is thus *coming to itself* through influences which are no more necessarily favourable to its development, than is the north-east wind always favourable to robust health. The invalid dies; it is the constitution already robust which is alone invigorated. Mr. Lecky is far nearer the truth when, from the standpoint of his rationalism, he ascribes such Christian evolution to the influence of the 'ideal character,' which, 'through all the changes of eighteen centuries,' has been in Christianity—

Not only the highest pattern of virtue, but the highest incentive to its practice.

This has indeed been the well-spring of whatever has been best and purest in the Christian life. Amid all the sins and ailings, amid all the priestcraft, the persecution and fanaticism which have defaced the Church, it has preserved in the character and example of its Founder an enduring principle of regeneration.²

¹ *Haeckel's Critics Answered*, p. 95.

² *History of European Morals*, ii. p. 88.

In a word, Christians are learning, as well they may do, to appreciate both Christ and His doctrine more and more, and in this ever-growing appreciation is at once the explanation of Christianity's present improved condition, and the potency of its future promise.

3. Its manifest capacity for adaptation to modern knowledge, of all kinds, is in itself a guarantee that its lease of life and influence is rather being renewed than terminated. How real, how natural, how far-reaching this adaptation is and will be, must be left to other volumes—which are by no means lacking for the honest student.¹

Two other remarks only need here be made. If, on the one hand, it be conceded—as it is—that the law of adaptation to environment on pain of death applies also to the Christian faith, it must, on the other hand, be affirmed that there is no necessity whatever that such faith should be extinguished in the process. The true suggestion of 'Rationalism,' that Christianity needs adapting to the larger outlook and closer scrutinies of modern science, is generally accompanied by the assertion that it cannot be done. Then, forsooth, as soon as it is done, comes the vehement protest that it ought not to be done! When the loud dictum that Christian faith is helplessly tied in the swaddling-bands of mediaeval theology, is rebuked by fact, then the protest becomes even blatant, that the purified and broadened faith cannot be Christianity, because it is not the ancient

¹ For a list of useful works in this direction see *The Miracles of Unbelief*, pp. 365-71.

Surveying, therefore, the whole field as carefully and sincerely as we may, the assertion is well warranted that, so far from 'falling into decay,' or 'tottering' to disappearance, Christianity was never so strong, so pure, so promising, as it is to-day. Such an estimate, being true, can well afford to include the frank acknowledgement that the Churches have many errors to correct, many malpractices to give up, much ignorance and selfishness to cure. The demand that these should all be accomplished by some stupendous miracle which should *compel* all who bear Christ's name to share His nature, is not only self-contradictory in itself, but especially unworthy of those who are always protesting against the possibility of the supernatural. Slowly, it may be, but surely, those developments are taking place which will make Christianity to be the full embodiment of its Author's claim—'I came that they may have life, and may have it abundantly.'¹ How far the doctrine of that future may differ from the past, or present, need not here be defined. It will be increasingly true to the Christ of the New Testament, and that will constitute it a valid continuance of all that has been best in Christian history. Thus the summary of the whole question as to the relations between Christianity and the science of to-day, can scarcely be better expressed than in the words of Dr. Gladden :

That the principle of the Christian morality is the foundation of the social order, and that society will never be at peace until it rests upon this foundation, is the claim which Christianity is

¹ cf. John x. 10 ; 1 Tim. vi. 19, R.V.

now prepared to make. The ground of our hope for the continuance and prevalence of the Christian religion, lies in the conviction that it will be able to make good this claim.¹

If in any serious degree such a hope should be disappointed, it will assuredly fail not by reason of the fulfilment of the wild suggestions of Haeckel's iconoclasm, but solely because 'those who profess and call themselves Christians,' have so far been untrue to their profession, and proved themselves unfaithful to their Lord.²

¹ *Great Religions of the World*, p. 276.

² Mr. Mallock may be forgiven some of the vagaries of his former volume, for the more sober and valid suggestions of his latest issue, *The Reconstruction of Belief*, in which his closing words truly express the modern Christian outlook: 'Christianity has prevailed for so many centuries, and amongst so many nations, because, while its cosmogony, its anthropology, and its doctrinal system in general, have satisfied the human intellect during past conditions of knowledge, its moral and spiritual teaching has satisfied even more completely the moral and spiritual needs of all men, from kings to beggars. If it is to retain its ascendancy, it must continue to fulfil the same functions; but in order to do this it must enlarge both its intellectual and its moral borders, purging its doctrines, on the one hand, of the now intolerable imagery derived from the old geocentric vision of things; and taking to its heart, on the other hand, ideals of knowledge, culture, mundane progress and enjoyment which hitherto it has barely tolerated, when it has not positively denounced them. If Christianity fails to effect this self-enlargement, its ascendancy will inevitably decline' (p. 313).

NOTE TO CHAPTER IX

As above intimated, on p. 88 of *Haeckel's Critica Answered*, occurs the following assertion:

The truth is that the historical value of the New Testament is shattered, and Christian scholars are, as in the case of the Old Testament, retreating upon its ethical value.

Apart from the question, which surely no other writer would ignore, as to how any 'ethical value' could remain for such a set of writings as the New Testament, when their historical foundations were 'shattered,' this dogmatic pronouncement has been submitted to a number of scholars whose ability and character are beyond dispute. Their comments are here appended.

PROFESSOR W. H. BENNETT, M.A., D.D., Litt.D., Hackney College, London, sometime Fellow of St. John's College, Cambridge, author of *A Primer of the Bible, Biblical Introduction*, &c.:

The statement that the historical value of the New Testament is shattered is absurd.

PROFESSOR MARCUS DODS, M.A., D.D., Professor of New Testament Exegesis in New College, Edinburgh; author of *The Bible, its Origin and Nature*, 'The Gospel of St. John,' in *The Expositor's Greek Testament*, *Mohammed, Buddha, and Christ*, &c.:

In answer to your question, I cordially endorse the statement in *The Faith of a Christian* to the effect that 'the result of

all the examination may be stated, without any exaggeration, to have shown that there are no documents in the world for whose historicity so much can be said. As purely historical documents they are unique.'

REV. R. F. HORTON, M.A., D.D., late Fellow of New College, Oxford, author of *Inspiration and the Bible*, *Revelation and the Bible*, &c. :

The historical value of the New Testament, so far from being 'shattered,' is gradually being established. For centuries it rested on ecclesiastical dogma ; now at last scholars are finding the true foundation. Mr. McCabe mistakes this critical process for destruction. It is only natural ; he was brought up in the Roman Catholic Church, which, for the men of our time, is the halfway house to complete unbelief ; but no instructed Protestant could fall into this error, nor will he when he carries his studies further.

REV. W. T. DAVISON, M.A., D.D., Professor of Theology, Richmond College; author of *The Praises of Israel*, *The Wisdom-Literature of the Old Testament*, *The Christian Conscience* (Fernley Lecture), &c. :

It is as far as possible from being true that the historical value of the New Testament is 'shattered.' On the contrary the tendency of recent criticism, as Harnack has shown in his *Chronologie*, is to re-establish many of the traditionally received dates, and in several instances the accepted authorship, of the New Testament books.

The substantial historicity of the narratives they contain may be confidently relied on, though Christian scholars are not disposed to insist to the same extent as formerly upon the precise accuracy of the writers in matters of detail. If the books of the New Testament are judged, not by a standard of historical precision which would have been an anachronism at the time they were compiled, but by a fair and reasonable interpretation of their words, their historical value, so far from being 'shattered,' is practically assured.

REV. R. J. KNOWLING, D.D., Canon of Durham Cathedral, late Professor of New Testament Exegesis, King's College, London; author of 'The Acts of the Apostles' in *The Expositor's Greek Testament*, &c. :

I should say with the greatest deliberation that *the truth* is the exact opposite of the mischievous statement which you quote from Mr. Joseph McCabe. If Christian scholars are insisting more perhaps than in some periods of the Church's history upon the ethical value of Christianity, it is because they are more than ever convinced that this ethical value is based upon the authority of a Divine Person revealed to us by historical facts and teaching.

REV. PROF. J. VERNON BARTLET, M.A., D.D., Professor of Church History, Mansfield College, Oxford, sometime Scholar of Exeter College; author of *The Apostolic Age, How and Why the Gospel won Europe*, &c. :

Taking the quotation from Mr. Joseph McCabe as it stands, in its unqualified and sweeping terms, I can only regard it as so exaggerated as to be positively misleading as a statement of more than its author's own personal opinions. The whole trend of present-day scholarship, applied to the New Testament as a whole, and informed by the analogies of general historic method, as contrasted with the unduly subjective standards of half a century ago, is totally opposed to this absolute sort of verdict.

Nothing could show more plainly how little Mr. McCabe appreciates the historic attitude and method characteristic of the best biblical scholars, than the analogy he draws between their attitude to the Old and New Testaments respectively, as if the writings composing these were produced under any but very dissimilar conditions. The great bulk of the New Testament originated during two generations of a period relatively well known to us from other sources; and it has a fixed nucleus of absolutely first-class historic documents in the generally acknowledged letters of the ex-persecutor Paul, which now number some nine (as compared with four in Baur's day), and the dates of which tend to be brought nearer to the actual ministry of Jesus Christ than was formerly the case. Further, the study of

the sources of our Synoptic Gospels has brought into clear relief the fact that they rest for the most part on materials substantially existing in their present form before the close of the first Christian generation. The fact is that Mr. McCabe seems to think still in the all-or-nothing categories which he learnt as a Roman Catholic, and has not been able to adjust his mind and language to the more discriminating standards of the genuine historical method of estimating evidence.

Dr. W. M. RAMSAY, M.A., D.C.L., Professor of Humanity in the University of Aberdeen; author of *The Church in the Roman Empire*, *The Letters to the Seven Churches*, *Was Christ born at Bethlehem?* &c.:

The statement which you quote is one which a rather rash writer might have made about twenty or even fifteen years ago, generalizing boldly from the indubitable tendency of opinion among scholars in the thirty years preceding that date (1885-90). If the words quoted by you were written at a recent date, they show pure ignorance of all recent discovery and disregard of the marked tendency of opinion among more recent scholars.

Many statements as to facts of society and economy made in the New Testament, which might then quite reasonably have been doubted, or set aside as valueless, are now well established as a basis for scholars to reason about and build upon. As to what may be said by those who are not progressive scholars and who quote from old-fashioned writers of to-day or yesterday, or twenty years ago, as indubitable truth—to which class the writer of the sentence enclosed evidently belongs—I do not see how you can put into them either the sense of what is reasoned truth, or the desire to know what is scientific truth.

Dr. RENDEL HARRIS, M.A., Reader in Palaeography in the University of Cambridge:

The passage to which you draw attention in Mr. McCabe's book is one of those extravagant statements which do more harm to those who make them, than to the cause against which they are directed. If the Christian religion is ever going to be 'shattered,' it will hardly be by people who tell us, as Haeckel does, by his acceptance and reiteration of a false and foolish

tradition, that the four Gospels were selected by miracle at the Council of Nicaea for the acceptance of the Christian Churches, or that St. Paul was not a Jew (a point of ignorance to which the average Sunday-school child does not approach). But as Haeckel's English friends are correcting his mistakes in their later editions of his works, let us hope that they will also suggest to Mr. McCabe not to pronounce the verdict in a case where the court is still sitting and where the evidence is not yet all in.

There is much in the Christian traditions that requires to be evaluated afresh; no one knows this better than the honest and sincere workers in an extended and difficult investigation. This, however, is not the shattering of history, but its restatement in harmony with increasing light and knowledge. Hasty and extreme statements as to the result of the process are to be deprecated. A little humility would keep us from such precipitate criticism.

REV. JAMES HOPE MOULTON, M.A., D.Lit., late
Fellow of King's College, Cambridge; Lecturer in
New Testament Exegesis, Manchester University;
Tutor at the Wesleyan College, Didsbury:

Mr. McCabe's assertion is a characteristic specimen of reckless exaggeration. The half truth on which it is based, is the undoubted fact that very many Christian scholars have given up the old belief in the supernatural guarantee of inerrancy on matters of detail. They recognize that inspiration was not given to save a historian the trouble of research and inquiry. But as to the broad lines of the Gospel history, especially as seen in the transparently truthful narrative of St. Mark, there is less inclination than ever to adopt the negations of those critics whose only critical principle is that miracles are not credible. Even on the question of miracles, there is a most significant movement of scholarship in the Christian direction. Not long ago the opponents of the miraculous swept all the miracles of Jesus into the same limbo. Now, we find them very generally admitting that He performed some wonderful cures. With such a concession from our strongest antagonists, we are under no temptation to stampede. The contrast between present conditions and past, is equally favourable to us in the

earlier dates which are now assigned to New Testament books, even by advanced schools of criticism. No ; responsible scholarship is in no danger of capitulating to amateur criticism like Haeckel's ; and if there is any 'retreating upon the ethical value' of the New Testament, it is only that the original purpose of the Book is being put more fully into its proper light.

REV. JAMES MOFFATT, D.D., Dundonald, author of *The Historical New Testament*, and translator of Harnack's *Expansion of Christianity*, &c. :

Mr. McCabe's remark might have been made fifty years ago, but at the present day I do not suppose that any historical critic of the New Testament, with a reputation to lose, would commit himself to such an opinion. The trend of scientific criticism is in another direction altogether. The severe tests applied to the Gospel narratives (excluding the Fourth Gospel) have produced results which may be pronounced similar to those yielded in the case of many other ancient documents. That is, a certain amount of matter has been detected which has plainly paid toll to contemporary prejudices. The amount of this varies according to the standard of discrimination applied, but the limits of variation are fairly well established, both in the case of sayings attributed to Jesus and of incidents in His career. Once this plus is eliminated as secondary (from the standpoint of historical research), the bulk or outline of the Synoptic narrative remains, upon the whole, a fairly credible account of Christ ; including no doubt passages of more or less difficulty, but certainly very far from being, as was at one time hoped or feared, the mere product of later ecclesiastical reflection working upon Old Testament prophecies or contemporary interests. On this point it is quite candid to assert that liberal scholars are at one. It may be said, in fact, without fear of contradiction, that those who most frankly recognize errors of detail, discrepancies, sensuous conceptions and edifying comments in the Synoptic narrative, are most forward to allow that these merely throw into relief the substantial trustworthiness of the story of Jesus from His baptism to His crucifixion. In proof of this, one need only refer to the three most recent attempts to deal constructively with this problem in Germany, where it is noticeable that Wernle and Bousset in their Tracts on Religion for the people, and Wellhausen

in his editions of Matthew, Mark and Luke, independently find themselves able to accept the greater part of the Synoptic narrative as historically unimpeachable. None of these distinguished scholars can be suspected for a second of ecclesiastical leanings. Their tendency, if tendency they feel, is the other way. Yet even on their methods—and their methods are substantially those practised by a large number of critics within the Church—the Gospels (i.e. the first three) are found to put a modern reader in contact with the Jesus who lived in Palestine. The same would hold, with certain reservations, of Acts. At any rate the traditional and edifying elements in the Synoptic stories do not serve to blur the image of Christ's person, and it is only an amateur who would venture at this time of day upon the assertion that the frank recognition of inaccuracies, tender and heightened colouring, in certain portions of these stories, serves to shatter their historical validity. The first business of historical criticism is to suspect or question any statement in an ancient document. Its second is, after such an examination has been carried through, to rank the statement at its proper value as a piece of evidence. This delicate work is being done by the historical critics of the Gospels to-day with a considerable amount of unanimity, and it is not unfair to describe the general outcome of their work as practically favourable to the authenticity of at least three-fifths of the Synoptic stories of Jesus.

REV. V. H. STANTON, D.D., Fellow of Trinity College, Ely Professor of Divinity in the University of Cambridge; author of *The Gospels as Historical Documents*, &c.:

The sentence which you quote appears to me to misrepresent grievously the actual state of opinion among competent critics in regard to the New Testament records. By the majority of critics who have no prepossessions in favour of orthodoxy, these are now allowed to possess a far larger amount of truth than was conceded to them half a century ago by Strauss and the Tübingen School, the most prominent free critics of that time. On the other hand the best-qualified students of the New Testament now, who approach it in the spirit of Christian faith, recognize far more readily than Christian believers generally were wont even a short while ago to do, that the New Testament writings must

be studied with the same open-mindedness as other documents which have come down to us from former times, in order that their historical value may be ascertained. The controversy in regard to the Gospel history, which has been carried on for a long time, is far from being yet at an end; and probably there will always be differences in the views men form on the subject, just as all other great movements and characters in history are variously regarded. Other considerations than such as are purely literary or scientific inevitably affect men's judgements in all such cases, and in judging they are themselves judged.

REV. H. B. WORKMAN, M.A., Principal of Wesleyan Training College, Westminster; author of *The Church of the West in the Middle Ages*, *The Dawn of the Reformation*, &c.:

The more I study the history of the early centuries of our era, the more convinced I am of the high probability—to say the least—of the occurrence, not only of the events in which the early Church believed, as reported in the Gospels and Epistles, but of a substratum of truth in many of the less accredited traditions.

REV. G. G. FINDLAY, B.A., D.D., Professor of New Testament Language and Literature and Classics, Headingley College, Leeds; author of Commentary on 1 Corinthians in *The Expositor's Greek Testament*, Thessalonians, *Christian Doctrine and Morals* (Fernley Lecture), &c.:

I doubt whether the statement of opinion on the part of any one in my position would weigh at all with those who deny the historical truth of the New Testament. Such an opinion is discounted as professional, and that of a paid advocate of traditional views. The fact, however, that a host of honourable and truth-seeking men in the full light of modern knowledge hold by the Christian tradition—in other words, the sustained consensus of educated Christendom—must count for a good deal with fair-minded people, as against the kind of assertion that you quote.

These shouts of triumph over the discredited Bible have been raised too frequently, since Voltaire's time, to make much impression now on thinking minds. Thirty years ago the agnostic leaders pronounced Christianity historically bankrupt, with an emphasis leaving nothing to be desired. Since that time it has shown a new vitality both in outward extension and in internal development, making, after every fair deduction, signal advance towards the conversion of the world.

It is not true that Christian scholars regard the Old Testament as shattered, and are retreating upon its ethical value. We are coming to see the Old Testament in a truer perspective and in a larger setting which gives interest and meaning to much in it that was formerly obscure, and which enhances its ethical value; but to suppose that this shatters its historical value is a lamentable mistake. The antithesis between the ethical and the historical thus set up is radically misleading. Christian ethics have been evolved out of a real human history, the critical stages of which have engraved themselves on the recollection of mankind in the pages of Scripture.

On the historicity of the New Testament, a new and dangerous attack has been made within the last few years, the result of which can hardly yet be reported. This interpretation of the New Testament differs from the rationalistic construction of half a century ago, in recognizing a much larger sum of historical fact in the New Testament. It admits that we find there the true outlines of Apostolic Christianity, but asserts that these have overlaid and distorted the original features of the religion of Jesus. Its plausibility arises from a cause parallel to that which has so strongly affected the criticism of the Old Testament, viz. the fresh light derived from contemporary history, and the close relationship in which primitive Christianity is seen to have stood to the life and thought and language of its own day. This ascertained relationship makes it impossible any longer to date New Testament documents from the second century; but it invites attempts to derive their elements from pre-Christian sources and to minimize the part which Christ played in the rise of Christianity, and to dwarf His person and influence. Of this, P. W. Schmiedel's too famous article on the Gospels in the *Encyclopaedia Biblica* is an example, its chief importance being due, however, to the auspices under which it appears. It will be evident how far removed I am from any suspicion that the New Testament is shattered in its historical value.

PROFESSOR J. G. TASKER, Tutor in Theology,
Handsworth College, Birmingham :

A conclusive refutation of Mr. McCabe's statement would be furnished by verbatim extracts from the writings of Christian scholars, chosen on the sole ground of their special knowledge of modern criticism of the New Testament.

W. P. WORKMAN, Esq., M.A., B.Sc., Head Master of
Kingswood School, late Fellow of Trinity College,
Cambridge ; Second Wrangler, First Smith's Prizeman,
&c. :

I am far from being a 'competent scholar' in New Testament criticism, but so far as my own reading goes it has led me to a conclusion exactly opposite to that conveyed in the paragraph you quote.

Many more such judgements might easily be added to the above.¹ There are, confessedly, 'Rationalist' writers to whom it will be a light matter to dismiss them all with the sneer above-quoted at their professional bias or superficiality—'it would be absurd to say that the publications of these professors of apologetics, and doctors of divinity, have the same value, as replies to Haeckel, as those of scientific laymen.'²

Such an attitude, however, sufficiently judges itself to preclude the necessity of further comment. The cause that requires such advocacy is manifestly lost.

¹ As reliable summaries suited for popular use and for young students, the following may be mentioned : *Clarion Fallacies*, pp. 106-71 ; *A Reasonable Faith*, pp. 89-155 (Hodder & Stoughton, Christian Defence Series, 1s.), *The Faith of a Christian* (Macmillan) ; *Christ and the Christian Faith*, Principal Cairns (Rel. Tract Soc.). These two latter sixpence each. For fuller works see *Miracles of Unbelief*, pp. 368, 369, 371.

² *Haeckel's Critics Answered*, p. 14.





X

CONCLUDING SUMMARY



X

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IN the preceding chapters we have endeavoured to face every principal item of Professor Haeckel's monistic system without flinching, entering into the detail of his exact words whenever necessary. For such thoroughness of scrutiny the importance of the issues at stake, and the unmeasured confidence of his affirmations, must be sufficient apology. It only remains to sum up the results of our examination with equal care and candour. 'Nearly all modern scientists,' we are told, 'who have the courage to accept a rounded philosophical system,' support Haeckel's 'monistic position.'¹ To which we reply that, whatever virtue may reside in a 'rounded' system, in the present case those scientists whose discretion has been the better part of their valour herein, are to be congratulated. And for the following reasons.

1. The general tone and spirit with which this 'system' is flung forth, is so often unnecessarily and unwarrantably rancorous, that its main lines

¹ *Riddle*, p. 135.

of contention deserve to be termed bellicose bombast rather than systematic philosophy. The instances above given suffice to put this beyond dispute. Not as a matter of personal opinion—as his champion chivalrously suggests—but as a finally settled fact are we informed that—

Monistic cosmology proved, on the basis of the law of substance, that there is no personal God; comparative and genetic psychology showed that there cannot be an immortal soul; and monistic physiology proved the futility of the assumption of free will. Finally the science of evolution made it clear that the same eternal iron laws that rule in the inorganic world are valid too in the organic and moral world.¹

The representation of all this as history, is sheer dogmatism contradicted by a thousand facts.

The further assurance that—

Every unprejudiced thinker who impartially considers the solid progress of our empirical science, and the unity and clearness of our philosophic interpretation of it, will share our view—and we shall only eliminate the last barbaric features of our social and political life when the light of true knowledge has driven out the belief in miracles and the prejudices of dualism,²

simply transports us into the region of effrontery. When, not content with seeking to lay upon opponents the burden of prejudice and cowardice, the pupil outdoes his master, in adding the item of moral depravity,

The sad truth is that the majority of theologians are morally hampered by a conviction of the sacredness and the exclusive truth of certain speculations about God and the soul which they have a corporate charge to defend,³

¹ *Riddle*, p. 123.

² p. 129; *Wonders*, p. 72.

³ *Haeckel's Critics Answered*, p. 15.

it is manifest that a system which requires such support is unworthy from its very foundation.

2. The constant assumptions of all-sufficiency and infallibility which distinguish Monism, are quite unwarrantable in face of the opposition which is not merely undeniable, but definitely acknowledged. Take the latter first. We have Haeckel's own statements to the effect that in matters serious and indeed fundamental, the following men of science, whose competence and skill he himself acknowledges, definitely and finally oppose his conclusions: Virchow, Du Bois Reymond, Wundt, G. J. Romanes, K. E. Baer, J. Reinke, Kant, Naegeli, O. Hertwig, W. Ostwald, &c.¹ Many of these doubtless show some considerable sympathy with Haeckel's general desire for unification. But their differences are quite serious enough to have thrown at least a veil of modesty over his own distinctive assertions.

There are many others, however, who are still farther from Haeckel's monism, but whose character for ability, courage, and honesty, does not in the least suffer thereby. Professor Huxley assuredly did not lack these qualifications. Yet his deliberate avowal above-quoted, that 'the materialistic position that there is nothing in the world but matter, force, and necessity, is as utterly devoid of justification as the most baseless of theological dogmas,'² leaves simply no room at all for this bastard monism. The attempt to shuffle mind in somewhere between matter

¹ See *Riddle*, pp. 33, 34, 36, 38, 94, 95; *Wonders*, pp. 344, 381, 398, &c.

² *Lay Sermons*, p. 125.

and force, serves but to show the falsity of the fundamental hypothesis. Huxley's frank acknowledgement, 'There is a third thing in the universe which, in the hardness of my heart or head, I cannot see to be matter or force, or any conceivable modification of either,' is in itself sufficient to scuttle Haeckel's showy craft, and send it to the bottom to keep his own Bathybius company. Similar expressions from Professor Tyndall¹ ought to add emphasis to the plea for modesty. But nothing would be easier than to fill pages with citations from men well qualified to speak, whose judgements so deliberately and emphatically traverse Haeckel's main positions, as to give any author good reason to pause before printing what we find in the volumes before us.

3. The further assumption that modern knowledge has so far solved the riddles of the universe as to justify the English title of Haeckel's work, together with his own assertion that 'only one comprehensive riddle of the universe remains—the problem of substance,' is utterly without warrant, and is flatly contradicted by Büchner himself,² as well as by other witnesses equally competent. Rightly does Professor McKendrick say, in the *Encyclopaedia Britannica*:

No one now doubts that consciousness has an anatomical substratum, but the great problem of the relation between the

¹ See *Fragments of Science*, vol ii. p. 87 (sixth edition).

² 'The philosophy of force and matter makes no pretension whatever to explain everything.' Then follows a list of inexplicables. 'All these and many other phenomena are, *and always will be*, entirely beyond our power of explanation.'—*Last Words on Materialism*, pp. 16, 17. True. But what then becomes of the boast of Monism?

two is as far from solution as in the days when little or nothing was known of the physiology of the nervous system.

What does Haeckel's fine phrase about the 'psychic functions of the phronema' add to that? Literally nothing. 'The chief merit' of his work, according to the enthusiastic translator, 'lies in its masterly treatment of the question of the evolution of mind.' This, we are told, 'has been placed on the same experimental basis as the theory of the evolution of the body.' Such a statement is its own sufficient confutation. For it shows that the masterliness of the treatment consists only in begging the whole question at issue. The evolution of the body has no relation whatever to the evolution of mind, until it is demonstrated that mind 'emerges' from body. Body we know, and mind we know; but mind emerging from body we not only do not know, but never can know, seeing that the facts are not of the same order. The bodily must cease to be bodily before it can become mental. The mental which, without any breach of continuity, should emerge from the bodily, would not be mental. Thus Monism solves the problem by not touching it. Its avowed solution is a simple 'must be so,' which is no more scientific than it is religious. Such a solution only serves to emphasize the insolubility of this among other riddles, and to demonstrate that ultimately Monism is materialism.

4. Its necessary postulates are arbitrary, unwarranted, unscientific. The commonest, most necessary,

least warranted, is the assumption, in the words of Büchner—that 'the world, or matter and force, never had an origin; they are eternal.'

This we have seen to be at best a mental shuffle, brought about by the necessity (for Monism) of getting rid of a Prime Cause.¹ It is nothing more than a huge *petitio principii* requiring for its support, as above shown,² the preceding demonstration of rank materialism. Setting aside the usual confusion (as shown once more in Büchner's words) between 'world' and 'universe,' the avowal of Professor Huxley is as forceful to-day as ever, that 'science leads us to contemplate phenomena the very nature of which demonstrates that they must have had a beginning.' If this be conceded in regard to man, there is no scientific reason whatever why it should not also apply to the primitive nebulosity of Laplace, or the hypothetical 'matter-force-reality' of Monism.

Says Miss Clerke, at the conclusion of her remarkable *Problems in Astrophysics*—a veritable modern *Principia* :

Within sight of that ultimate problem, the structure of the sidereal universe, we pause. We must be content to avow our impotence to comprehend the supreme design which it is directed to realize, and to bend in awe and admiration before the unfathomable depths of difficulty and mystery towards which the study of sidereal development in its larger bearings inevitably

¹ This is well and succinctly considered in Mr. Thomas Child's booklet entitled *Root Principles* (sixpence, Allenson, London), a searching examination of Haeckel, worth six times its price.

² See p. 489.

leads. 'Die Schöpfung,' as Kant discerned, 'ist niemals vollendet. Sie hat zwar einmal angefangen, aber sie wird niemals aufhören.'¹

5. Even if matter and motion be granted, out of mere mechanical movement the world, let alone the universe, cannot be rationally constructed. Enough has been said upon this theme in preceding pages. Let two other witnesses, therefore, summarize for us. Says Professor James Ward:

'This demand for monism by scientific men who reject the old materialism is in itself a hopeful sign.' But 'we cannot hope much from a monism that sets out from two totally distinct and disparate orders of phenomena, least of all when the spontaneity that belongs to the one is declared to be illusory or impotent, solely in order to save the inertness which is held to be the essence of the other. Nor, again, can we reasonably content ourselves with a monism which, however anxious not to be called materialistic, yet disclaims the title of idealistic or spiritualistic with even greater vehemence, being unwilling at any price to part with its mechanical scheme.'²

And Mr. Stallo, after careful discussion of the 'four cardinal propositions of the atomo-mechanical theory,' finds that, 'without entering upon the domain of the organic sciences, they are severally denied by the sciences of chemistry, physics, and astronomy.'³

¹ p. 545. 'Creation is never completed. A beginning indeed it has had, but it will never have an end.' Says Mr. Hird, 'The accepted conclusions of science, that matter and force are indestructible, teach us that neither can be destroyed, so that it is almost certain, as they can have no end, that they had no beginning.' Here, whatever becomes of the assumed 'law of substance,' the little word 'almost' saves the writer's logic, but wrecks his Monism.

² *Naturalism and Agnosticism*, ii. p. 107.

³ *Concepts of Modern Physics* (International Scientific Series, No. xlii.), pp. 28, 29, 83. It pleases Mr. McCabe to refer to Mr. Stallo's work as 'stale and ill-formed criticisms'; but the best method of dealing with these brow-beating epithets, as also with the attempt to

If the Monistic profession, 'to carry back all phenomena without exception to the mechanism of the atom,' fails as egregiously as it does, in the inorganic realm, what language can express the fiasco when it is applied to the organic! Of a truth, if mind and soul be nothing more than mechanism, words cease to bear meaning, and reason is at an end. The life that is nothing more than mechanism, is not life at all.

6. Again, as to evolution, there are two plain rifts in the Monistic lute which should tend to modify its ambitious strains. As a general principle, the educated modern man accepts evolution, whether he be religious or irreligious. But the former certainly may decline, with good reason, to accept the Monistic assumptions hereupon. These are in the main twofold. First, that evolution is established beyond controversy on the Darwinian lines of natural selection. Secondly, that such evolution is both all-comprehensive and all-sufficient in its application. Neither of these is true. There is no room for controversy over the statement that 'the Monistic explanation of organization' depends upon Darwinism, and Darwinism depends upon 'natural selection'; but there is great space for conflict in the assumption

make Sir Oliver Lodge join in the contumely, will be to turn to the book itself. Its main principles are just as worthy of consideration to-day as when they were written, twenty years ago. The Haeckelian monist at all events ought not to scorn a book which declares that 'there is little doubt that the principle of the conservation of energy will prove to be the great theoretical solvent of chemical as well as of physical phenomena.' Should the reader have access to *The London Quarterly Review* for January, 1884, he will find therein a suggestive article dealing with this work.

that natural selection is true, and true enough to make Darwinism the sole clue to organic evolution. Even if Professor Henslow's bold challenge be disallowed, that 'there are no facts known to occur in nature in support of Darwinism,'¹ it yet remains a fact to be faced that 'Naegeli rejects Darwin's theory of selection altogether.'²

It is also necessary to bear in mind that even Professor Huxley, the ardent supporter of Darwin's hypothesis,

Could not ignore the fact that there was no positive evidence to show that any group of animals has by variation and selective breeding given rise to another group which was ever in the least degree infertile with the first. All experiments in this direction have failed, and yet this infertility is a characteristic in nature of different species.³

It was also a serious avowal by a competent scientific man, when Mr. Carruthers declared that from paleontological botany the conclusion was that 'the whole evidence is against evolution and there is none in favour of it.' Nor is Du Bois Reymond's scientific standing to be dismissed with scorn, because he affirmed that 'man's pedigree as drawn up by Haeckel is worth about as much as is that of Homer's heroes for critical historians.'⁴

But even if evolution be accepted as the best

¹ *Present-day Rationalism*, pp. 51, 145-204.

² *Wonders*, p. 381.

³ Dr. Thompson, *Huxley and Religion*, p. 76; *Darwinism*, p. 74.

⁴ See *The Old Riddle and the Newest Answer*, by J. Gerard, F.L.S., whose chapter 'Audi Alteram Partem' at least merits fair consideration, pp. 239-69.

account thus far obtainable of the method of creation, there are yet good reasons for remembering that 'it is a doctrine of limited, and not of universal, application. In whatever sphere it is applied, its limitations are equally apparent.'¹ The sphere, of course, in which these limitations are most apparent, is in regard to human nature. Monism's vaunted 'evolution of mind' is, as shown above, nothing more than a vast gap covered over by an unscientific assumption. We being what we are, no process of evolution whatever can produce the human mind out of an (assumed) mindless 'matter-force-reality.' Hence Dr. Howison has good grounds for the weighty words with which he concludes his essay upon *The Limits of Evolution*:

Evolution cannot have the universal sweep essential to a sufficient principle of philosophy. The professed philosophy of evolution is not an adult philosophy, but rather a philosophy which in the course of growth has suffered an arrest of development.

Let men of science keep the method of science within the limits of science; let their readers at all events beware to do so. Within these limits there is complete compatibility of science with religion, and for ever will be. Let science say its untrammelled say upon man the physical, the physiological, or the experimentally psychological; upon man the body, and man the sensory consciousness. But let not science contrive its own destruction by venturing to lay profane hands, vain for explanation, on that sacred human nature which is its very spring and authorizing source. And let religion stay itself on the sovereignty of fulfilled philosophy, on man the Spirit, creative rather than created, who is himself the proximate source of evolution, the co-operating cause and Lord of that world where evolution has its course.²

¹ *Personal Idealism*, p. 219.

² pp. 53-5.

7. Thus, then, is exposed the vanity of the Monistic vauntings of superiority, alike in the sphere of science and philosophy.

(i) As to the former, because it can make no progress without gaps, as real and great as ever existed in any theology. The only difference between the two cases is that the latter uncovers such gaps for estimate, whilst the former covers them with verbal bridges and then ignores them. Its professed reduction of everything, 'without exception,' to mechanics, is necessarily transcended every time the assertion is made. The whole Monistic boast that 'the number of world-riddles has been continually diminishing in the course of the nineteenth century through the aforesaid progress of a true knowledge of nature,' becomes more and more of a delusion the more closely it is considered. The position is summed up once for all by a competent and unbiassed witness when we call to mind Mr. Karl Pearson's words, 'An explanation is never given by science. The whole of science is description, mechanism explains nothing.' So far as science is concerned, not one single riddle has been or will be solved by Monism.

(ii) Nor is its philosophy in any better case. The suggestion of Haeckel, that 'competence to decide fundamental questions of philosophy demands above all a thorough *biological* training,'¹ rests upon no other foundation than Monistic partiality. For whilst genuine study of every branch of science may contribute to philosophic impartiality, no one branch,

¹ See Loofs's *Anti-Haeckel*, Eng. edn., p. xii.

by the very nature of the case, is more essential than another. If, indeed, we are to appreciate Darwin's own lament in his later years, that his mind had become 'a mere machine for grinding out facts and generalizations,' it would certainly seem that the scientific faculty may be trained to the obscuration of the philosophic. This is, perhaps, the most charitable explanation of the fact that the 'construction of the Monistic and realistic philosophy' is reckoned amongst the 'achievements' (!) of the nineteenth century.¹ Paulsen's satire,² however scathing, appears to give the truer estimate of this 'system,' for such as are not the victims of one-eyed specialism.

8. There is no blinking the fact that this much-reiterated Monism, as pointed out above, is not monism after all.³ Dr. Büchner, indeed, says:

A philosophic system which puts at its head not matter, as such, but the unity and indivisibility of force and matter, cannot be possibly described as materialism. Whoever regards both matter and force in their unity and association, and makes this unity the basis of his thought, is a monist.⁴

But manifestly 'unity' is one thing and 'association' is another. Even the utterly arbitrary assumption of 'indivisible' association, in all its desperateness, does not make unity. Unless and until the association becomes fusion, so that matter and force are *identical*, we are only dealing with dualism under a false title.

¹ *Wonders*, p. 416.

² See p. 255 above.

³ The student would do well to read the whole of the first and third chapters of Professor Adickes' *Kant contra Haeckel* hereupon.

⁴ *Last Words on Materialism*, p. 273.

Nor can such pseudo-monism ever be saved by 'aspects.'¹ For as regards the 'matter-force-reality,' of which 'matter' and 'force' are so calmly said to be 'aspects,' Haeckel's own acknowledgement is, that it 'becomes more mysterious and enigmatic the deeper we penetrate into the knowledge of its attributes.' In which case it is manifestly impossible to predicate homogeneous unity concerning it. Seeing, moreover, that 'we do not even know whether it exists or not,' how can there be any logical warrant for the assumption that matter and force are merely 'aspects' of it?

Thus the dualism is inevitable. Yet even out of this it is found, in practice, that 'Monism' cannot be constructed without the assumption of 'a third attribute' of the unknowable and may-be-not-existent 'substance.' In face of such enforced trinitism Dr. Keeling may well say that 'it is not clear what advantage will accrue from such attempts to force the infinite diversities of nature into what is really a mould fashioned by philosophy'²; and we have seen that the great chemist Mendeléef is of the same opinion.

9. Constructed on such a basis, it is no wonder that the 'ethics' of Monism are shaky. When the cloud of rhetoric, not to say abuse, with which Monistic ethics are introduced, subsides, it appears that there is no original standard of duty, no seat

¹ See herein especially chap. xi. in Mr. T. Child's *Root Principles*, above mentioned.

² *Some Ways of looking at Matter*, p. 31.

of authority, no source of obligation is certainly made. Christianity appears to us much purer than that of any other religion, scarcely an ethical proceeding to be ethic *en bloc*, mutilate it in various style it 'our monistic ethics.'

It is affirmed by one of Haeckel's

To fully grasp the teaching of evolution, condition of helpless isolation to one of with the universe. Man is no longer to be a homeless lodger in a world of dust and a the laws of the universe, and by knowing form to those laws, he is enabled to reach the highest goal.¹

But what a specimen is this of the Monistic imagination! Assuredly it allows no man who accepts its suggestion, to see himself as living 'in hopeless isolation,' 'universal brotherhood with the universe as intelligible, as true, as substantial a suggestion, as sisterhood with the universe for a little orphan shivering on some thought of man as 'a solitary main as Strauss says, not from faith, but from sentiment.² The conception of the human race unerringly to the highest goal,' is no fiction, contradicted by the historical family, and individual. Though

¹ *Confession*, p. 63. It would be well to speak and write as Monists would remember to

² Hird's *Easy Outline of Evolution*, p. 229.

³ *The Old Faith and the New*, p. 435.

thinkable, it would be all the more tragic in its mockery. For the 'highest,' according to Monistic evolution, is (if we heed Professor Huxley, who should know), simply a life-long combat with the 'cosmic process,' leading on to—extinction! What a precious 'brotherhood with the universe'!

10. The ostensible linking on of religion to this attitude, is as delusive as attractive. 'The ethic and religion of Monism,' sounds well, as well it may; for beyond the sound, there is nothing else in it. There is nothing to worship, nothing to call forth emotion, nothing really to elevate the mind, nothing to satisfy the soul, nothing to form a genuine human brotherhood. For if there be no Divine Fatherhood, whence can any true brotherhood be drawn? And apart from the development of genuine brotherhood, what hope is there of social reformation? Last, though not least, there is nothing to give any hope that the struggle of the present, will, for the struggler, issue in any better future. 'From end to end of the universe comes only the whisper of death.'

The 'religion of humanity' is said, indeed, to be born of Monism, and to produce all these effects—except the last, which, being entirely beyond its scope, is described as useless—after the style of 'the fox and the grapes.' But one looks about in vain, alike in the past or the present, to find where such fruit grows from such root. The prospect is sometimes put into literary form, under gracious patronage, thus:

While Agnosticism acknowledges the limited good done by the

declining forms of Christianity, it deems that the age is ripe for a religious reconstruction on a purely human basis.¹

Such tall-talk makes one smile in spite of oneself. For in mildest estimate the first half of the sentence is as 'gravely misleading,' as the second is quixotic. Christianity has many faults, confessedly, but even its dim dawn is warmer in reality, and brighter with promise, than this ethical moonshine.

11. The faults of Christianity in the past, have received more than ample treatment at the hands of Haeckel and his friends. The ceaseless abuse and one-sided exaggeration of these, richly merit the rebuke administered by such an unbiassed witness as Mr. John Morley:

We get very wearied of the persistent identification of the Church throughout the dark ages with fraud and imposture and sinister self-seeking, when we have once learned, what is undoubtedly the most important principle of those times, that it was the Churchmen who kept alive the flickering light of civilization, amid the raging storms of uncontrolled passion and violence.²

In all such misrepresentations as are here summarized, there is no more truth than in the oft-repeated insinuation about 'the declining forms of Christianity.' The eager zeal of uninstructed Protestants has too often given occasion for such wholesale denunciation of pre-Reformation Christianity. The era for a larger and truer estimate has come. What-

¹ *Daily News* correspondence under, 'What is Wrong?' Letter from Mr. F. J. Gould, as 'a pure agnostic.'

² See *What is Christianity?* (C. H. Kelly), vol. ii. p. 98. *The Difference Christ has Made*, by Rev. George Jackson.

ever the failure of Christianity from its own loftiest ideal may have been, its past history is no more one long record of villainy, than its present condition is wholly one of ignorant selfishness. It is time such slanders ceased.

12. As to the future of 'the ethic and religion of Monism,' over which Haeckel's champion grows so jubilantly prophetic, it will be best to wait for the event. Dr. Rice's estimate is fair to facts when he says:

It seems unmistakable that the tendency of biological thought in general, and evolutionary thought in particular, at the present time is towards monism. But that fact is very far from conclusively establishing the truth of a monistic philosophy. The present tendency toward monism may be simply an example of the crude and premature philosophizing which results from the dominance in thought of a new idea as yet imperfectly comprehended.¹

The ability and zeal of many Monists may possibly ensure for Haeckel's monistic system a fairly long lease of life. But the common sense of mankind is too great to permit men to content themselves with either atheism or determinism. In so far as Monism tends towards agnosticism, its existence may be indefinitely prolonged. For, as Dr. Flint says:

Religious agnosticism cannot fail to remain long prevalent. The very wealth of contents in the idea of God, inevitably exposes the idea to the assaults of agnosticism.²

But the prophetic tone which the defence of Haeckel's 'system' so magniloquently adopts, is

¹ *Christian Faith in an Age of Science*, p. 276.

² *Agnosticism*, p. 600.

neither confirmed by the philosophy of the present, nor warranted by the prospective science of the future.

13. Monism may—or may not—be the philosophy of the future. But there is neither necessity nor likelihood that it will be a monism of the type we are considering. The opinion of Haeckel that 'a weak hypothesis is always better than none,'¹ may best be estimated in the light of Sir Oliver Lodge's rejoinder that 'a premature and cheap monism is worse than none at all.'² A monism of the type exhibited in the words of Dr. Romanes, or Mr. Rhondda Williams, not to mention others,³ is much more in accord with the trend of that genuine modern philosophy to which modern science can but be handmaid.

14. So far as we may here approximate to prophecy, the opinion may be adventured that the monism of the future will have to be, not only, as Dr. Romanes claims to have shown, not anti-theistic, but definitely theistic. For confidence in such an opinion we may be mostly indebted to Haeckel's

¹ *Wonders*, p. 395.

² *Hibbert Journal*, January, 1905, p. 317.

³ 'I am in full accord with Professor Clifford in believing that monism is destined to become the generally accepted theory of things. But I disagree with him in his holding that this theory is fraught with implications of an anti-theistic kind.'—Romanes, *Mind and Motion and Monism*, p. 116.

'I believe in the unity of the world; and a kind of monism is probably the truest solution of the riddle, but I must find the unity in spirit, not in matter.'—Mr. Rhondda Williams, *Does Science destroy Religion?* p. 8.

monism, by reason of the utterness of its failure to make pantheism, or atheism, even thinkable. Mr. McCabe has written truly, since his plea for Haeckel was published, that—

There remain the great questions whether this mechanical evolution of the universe needed intelligent control, and whether the mind of man stands out as imperishable amidst the wreck of worlds. These constitute the serious controversy of our time in the region of cosmic philosophy or science. These are the rocks that will divide the stream of higher scientific thought for long years to come.¹

But we are not a little indebted to him for helping to shorten the years in prospect. For he has given us, up to date, the very best and utmost that anti-theistic monism can find to justify its existence. And when we read that, as Christian believers, a sigh of relief mingled with gratitude is the result of our fullest facing of the threatened avalanche. It proves to be nothing more than a harmless mist. There is nothing whatever in it to prevent our doing full justice to the suggestion of Mr. Wells's *Anticipations*:

Now quite inevitably these men—of the New Republic—will be religious men. *Being themselves, as by the nature of the forces that have selected them they will certainly be, men of will and purpose, they will be disposed to find, and consequently they will find, an effect of purpose in the totality of things.* Either one must believe the universe to be one and systematic, and held together by some omnipresent quality, or one must believe it to be a casual aggregation and incoherent accumulation with no unity whatever outside the unity of the personality

¹ *Hibbert Journal*, July, 1905, p. 748.

regarding it. All science and most modern systems presuppose the former, and to believe the former is, to any one not too anxious to quibble, to believe in God.¹

Such a theism is confessedly a poor bald thing compared with the contents of Christian faith, but it is at least a great improvement on the 'miserable and degraded' Monism which bases its pantheistic atheism upon assumptions and incoherencies, and leads humanity on only to the fate of 'the smallest bacillus.' It answers plainly one of the 'great questions' of Haeckel's champion,² and so paves the way for something better. Perhaps that something could scarcely find worthier expression—if the contents of the Christian Gospel are read into it—than when the same author, struggling apparently in the narrow meshes of his own virtual agnosticism, says also that—

The world has a purpose greater than happiness: our lives are to serve God's purpose, and that purpose aims not at man as an end, but works through him to greater issues.

15. The extent to which 'scepticism' appears to

¹ pp. 108, 122. The italics are the author's.

² When it pleases him (*Hibbert Journal*, July, 1905, p. 755)—viz. in an endeavour to disparage the worth of Sir Oliver Lodge's attitude in relation to Christian theism—Mr. McCabe can treat this as a small matter—'Only a teleological view of the world process, and an empirical conviction of the persistence of mind.' Such an 'only' may be convenient as the rhetorical finish of a magazine article, but the consensus of mankind, to-day as strongly as ever, goes to show that his former estimate, above quoted, is the true one. God, and immortality, are the 'great questions' alike of the present and the future; and the answer of science, no less than philosophy, will be in the direction of Mr. Wells's 'anticipations.'

be growing, is naturally a favourite theme with the advocates of Monism. Both Haeckel and his helper wax prophetic hereupon.

In a few years men will hear religious beliefs ridiculed and torn to shreds on every side, and it may be that the whole structure of their moral habits will be shaken to the ground.¹

There is real force in the suggested sequence of events here, for those whom it concerns. But the writer quite innocently ignores the fact that this very process has been going on from the beginning. To say nothing of the blood of the martyrs, neither he, nor his master, nor both together, can do more ridiculing and tearing than Celsus did. Modern Monism and 'Rationalism,' with all their 'sound and fury,' can find no new scorn to pour upon the Christian faith. But it does not necessarily follow that to hear their beliefs 'torn to shreds' with contumely, will make men forsake them. Many may rather have good reasons for thanking God that, in this respect at least, they are 'not like the rest' of their fellows. A valid faith is strengthened rather than destroyed by opposition; especially when the opposing is of such a character as Haeckel's seventeenth chapter.

No one possessed of intelligence and candour questions for a moment that the spirit of inquiry is abroad, and that even the very foundations of faith are assailed to-day in ways only possible through a rampant press. But there are redeeming features,

¹ *Haeckel's Critics Answered*, p. 97.

even in this modern development. As Mr. Fiske has said :

The scepticism of our day is rather sad than frivolous ; it drags people from long-cherished notions in spite of themselves ; it spares but few that are active-minded ; it invades the Church, and does not stop in the pews to listen, but ascends the pulpit and preaches. There is no refuge anywhere from this doubting and testing spirit of the age.¹

Only a feeble-minded and narrow-hearted credulity will sorrow over such an outlook. A genuine and instructed Christian faith will hail, in such an environment, the very means of worthiest development. It is at worst but an opportunity for carrying out the Gospel principle, ' Prove all things, hold fast that which is good.' The summing up of the message of Monism is that—

Man looks about him on a vast and restless ocean of being, on the surface of which the life of his whole race is no more than a momentary bubble.²

But so long as man is man, it is certain that he will never rest content with such a superficial and melancholy vision. The soul that beats through all earth's noblest poetry protests against such a contemptuous belittling of human nature, with quite as much truth as was ever found in biology or anatomy.

If e'er when faith had fallen asleep,
I heard a voice, ' Believe no more,'
And heard an ever-breaking shore,
That tumbled in the godless deep,

¹ *Through Nature to God*, p. 145.

² *Haeckel's Critics Answered*, p. 34.

A warmth within the breast would melt
The freezing reason's colder part :
And, like a man in wrath, the heart
Stood up and answered, 'I have felt.'

Nor does this in the least suggest, what 'Rationalists' are so peculiarly fond of suggesting, that faith means the mere following of emotion. The innuendo was never true. It is less true now than ever. Mr. Mallock's well-meant Pyrrhonism is, indeed, helplessly open to the retort of Haeckel's champion that 'theology is not more likely than science to give ear to such a proposal.'¹ To say that 'with regard to life in its totality, the intellectual compatibility of propositions is no test of their truth,' is a mere evasion which deservedly meets its fate at the hands of Mr. McCabe's retort—'To admit two or more statements that are clearly contradictory is quite another matter.' Most assuredly the credibility of the Christian religion does not depend upon such a *tu quoque* as the laboured pages of the first three quarters of Mr. Mallock's curious book² make out. True it doubtless is, that 'the ultimate nature of things is for our minds inscrutable,' but it is here equally irrelevant. Faith no more needs than desires the comprehension of the 'inscrutable.' It only requires assent to the true. 'Assent to contradictories' is not only entirely different, but is altogether impossible to a sane mind. Suggestions to the contrary may serve the purpose of a section of the Christian

¹ *Haeckel's Critics Answered*, p. 121.

² *Religion as a Credible Doctrine*, pp. 11-218.

Church which is obliged to maintain the notion of transubstantiation and miracle-working sacraments, but it is no part of essential Christian belief. Faith may transcend reason—that is its proper function. But it may not contradict reason—that were to brand itself as superstition. The antinomy which seems to Mr. Mallock the inevitable ground of faith, is but a slippery declivity arising out of his doing more than justice to one side of his theme and injustice to the other. Let this be righted, and the rock remains upon which the Church may safely build.

16. Our final word, therefore, here, which ought not after the preceding pages to be accounted dogmatic, is that the human hope for the future is not in the 'sweeping away'—even if that were possible—of Christian faith, but in its purification and development, its deeper reality and enlarged application. The very nature of the modern unrest may be truly said to be Christian. For it is certainly ethical, and has for its strongest motive the essence of Christ's second great command. In this respect one may affirm with confidence that the modern assault upon Christianity is better than the ancient. Dr. Findlay has well expressed the case:

The ethical questions involved in the relations of evangelical faith to modern society have forced themselves upon us; their magnitude and urgency are universally felt. The ascendancy and continued maintenance of Christianity appear to depend upon their solution.

We perceive, with a clearness growing painfully distinct, that unless the gospel of Christ is made to leaven substantially the

mass of our complex and in many respects disordered and unhappy European civilization, unless the victory of the Cross is signally renewed in the living world around us, the fruit of the Protestant Reformation and the evangelical revival is likely to be scattered, and the ground won for religion and humanity in those two glorious struggles may be shamefully and disastrously lost.¹

When we think of the mental difficulties which were associated with the formation of Christian theology during the early conciliar period, we are guilty of no ingratitude for their strenuous and painful efforts to guard what they held to be true, if we share the lament of Dr. Fairbairn :

Would it not have been to the infinite advantage of the Christian religion if these councils had concerned themselves as much with the ethics as with the metaphysics of the person of Christ ; and demanded that the Church should realize the fraternity, the unity of classes and peoples, the faith, the hope and charity, the obedience towards God and duty towards man it symbolized ?²

It is only too true that Augustine, in his contentions for the faith, and Luther, in his conflict with Rome, missed splendid opportunities 'for applying the sovereignty of Christ to the higher moral, social, and spiritual life of the race.' It is for the Churches of Christ in these days to see that in their defence of the faith they do not commit similar mistakes.

There is indeed in all history nothing more tragic than the fact that our heresies have been more speculative than ethical, more concerned with opinion than with conduct ; that the Church whose claims are highest and most indefeasible in

¹ *Fernley Lecture*, 1894, p. viii.

² *The Philosophy of the Christian Religion*, p. 565.

doctrine, has been the most prone to compromise in morals, consumed with jealousy for the honour and inalienability of the priestly office, while cynically indulgent towards the priestly character. But if Christ be rightly interpreted, the worst sins against God are those most injurious to man.¹

Now, as ever, it is not the assault of foes, but the defection of friends that the Christian faith has most to fear. Necessary as it has been to point out wherein Haeckel's monism is false, it must be acknowledged, in all candour, that there is tragic truth in his stern pointing to 'the pseudo-Christianity of the nineteenth century.' For the direst needs as well as noblest developments of the twentieth century it cannot be affirmed too strongly, that the mere apologetics of belief are as mockingly inadequate as the polemics of unbelief. The disproof of Monism is of no more avail for the benediction of humanity than its proof. What is wanted above all else, for Church and world alike, is the conversion of 'Christians' in general to Christianity.

¹ p 565.



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